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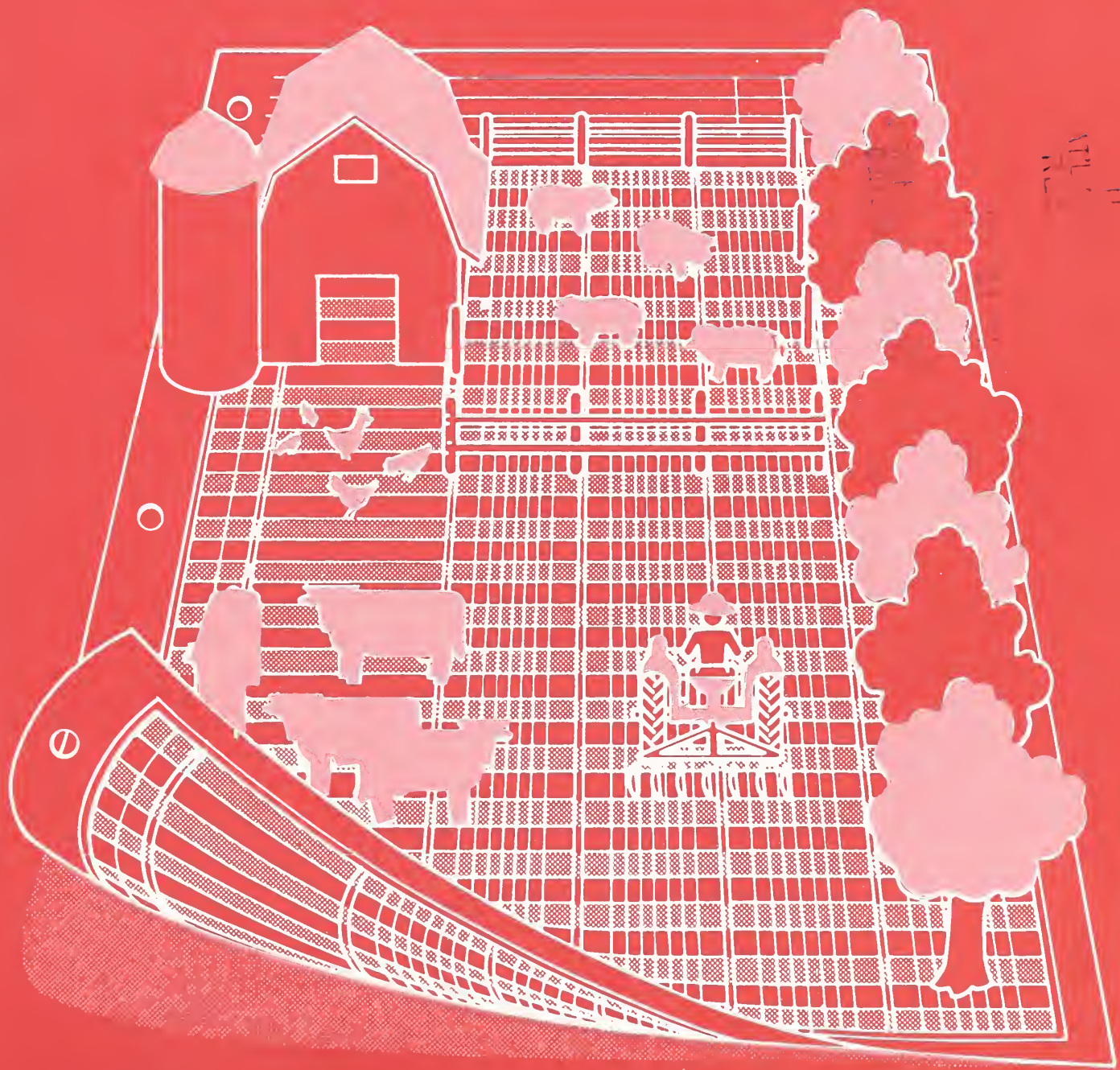
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Economic Indicators of the Farm Sector

Costs of Production-- Major Field Crops, 1989



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Abstract

Per-acre costs of producing major field crops rose slightly in 1989. Variable cash expenses increased 1-5 percent for rice, peanuts, cotton, and sugar beets. For oats, corn, sorghum, wheat, soybeans, and barley, variable cash expenses rose 8-13 percent as 1989 seed costs climbed because of the 1988 drought. Total economic costs per acre also rose. Costs per harvested bushel of corn, oats, barley, wheat, and soybeans fell sharply as yields in the Corn Belt, Lake States, and Northern Plains recovered from the 1988 drought.

Keywords: Costs of production, enterprise costs and returns.

Preface

This report is one of five in the annual *Economic Indicators of the Farm Sector* series. Others are: *National Financial Summary*, *State Financial Summary*, *Costs of Production--Livestock and Dairy*, and *Production and Efficiency Statistics*.

This year's *Costs of Production--Major Field Crops* incorporates new production practice and expenditure data from the oats version of the 1988 Farm Costs and Returns Surveys (FCRS). Methods of estimating labor, general farm overhead, and interest expenses for oats have been changed beginning with 1987. Cost-of-production estimates for flax and sunflower have been discontinued.

Rice costs of production are estimated in two ways: excluding direct Government payments and costs of participating in the rice program and including those payments and participation costs. For other crops direct Government payments and participation costs are excluded.

Rice estimates for 1988 and 1989 have been calculated with a recently developed farm-level budget model. It calculates production costs for each farm in the FCRS and combines the farm-level estimates to arrive at regional and national estimates. Production cost estimates for the other crops have been calculated from State-level summaries of input use and prices rather than farm-level estimates. Both the farm-level and the State-level models use the same definitions and, for the most part, the same data. The farm-level model allows greater analysis of cost-of-production information.

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Robert Pelly and Ken Mathews contributed to the corn, sorghum, and cotton estimates in this report. Thanks go to Mitchell Morehart, Charles Barnard, Greg Strain, Paul Westcott, and other reviewers for their helpful comments.

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Economic Indicators of the Farm Sector

Costs of Production--Major Field Crops, 1989

The Agriculture and Consumer Protection Act of 1973 and subsequent legislation require that the Department of Agriculture annually estimate costs of producing wheat, feed grains, cotton, milk, rice, peanuts, sugar beets, sugarcane, and tobacco. Cost-of-production estimates for these commodities, except milk and tobacco, are presented in this report.

Although the estimates are often called budgets, they are not projections or goals, but historical estimates of costs, reflecting actual levels of input use, production practices, yields, and prices as measured by surveys of producers and suppliers. Costs include both cash expenditures, by farm operators and landlords, and economic costs of production. *Direct payments for and costs of participation in Government programs are excluded except as discussed later.*

1989 Production Costs and Returns

Per-acre costs of producing major field crops rose slightly in 1989 (fig. 1). Variable cash expenses increased 1-5 percent for rice, peanuts, cotton, and sugar beets. For oats, corn, sorghum, wheat, soybeans, and barley, variable cash expenses rose 8-13 percent. Farmers generally paid higher prices for inputs (fig. 2). The Index of Prices Paid for Production Items, Interest, Taxes, and Wage Rates (5) increased 4 percent following a 6-percent rise in 1988. ^{1/} The index of seed prices rose the most, 10 percent, reflecting drought in the previous year. Fuel and energy prices climbed 9 percent but remained well below their 1981 peak. Wage rates increased 8 percent. Fertilizer and chemical prices rose about 5 percent (app. table 1).

^{1/} Italicized numbers in parentheses cite sources listed in the References section at the end of the text.

Total economic costs per acre of corn, oats, barley, wheat, and soybeans also rose. Costs per bushel harvested, however, fell sharply as yields in the Corn Belt, Lake States, and Northern Plains recovered from the 1988 drought. While yields rose, harvest-month crop prices fell. Oats and soybean prices dropped dramatically, reducing per-acre gross values of production and residual returns to management and risk (gross value of production minus total economic costs). Corn and barley prices fell less sharply, and residual returns rose despite increased costs. Wheat production costs climbed per bushel harvested. While wheat yields in the Northern Plains and the North-Central region recovered from the drought, yields fell in all other regions, particularly the Central Plains. Total economic costs per acre of sorghum were unchanged as low yields and prices led to a lower charge for sorghum land, which offset increases in other costs.

Corn--Variable cash expenses climbed 9 percent to \$133 per planted acre, led by increases in seed, grain drying, and fertilizer expenses, each of which rose by about \$2 per acre. Drying increased as yields recovered from the 1988 drought. Fertilizer continued to be the major cash cost for corn, accounting for more than a third of total variable cash expenses.

In the Lake States and Corn Belt, which contain about two-thirds of the U.S. corn acreage, yield rose from its 1988 drought-reduced level to nearly match the record high. Gross value of production per acre increased by more than 30 percent to \$261, despite a drop in the price of corn. Total cash expenses rose 7 percent to \$181 per acre and total economic costs climbed 13 percent to \$295.

Total variable cash expenses increased 8-13 percent in the Southeast, Northeast, and Plains States. Yields in the Southeast and in the Northeast jumped by more than 40 percent, and the margin between gross values of production and cash expenses improved.

Figure 1
Production costs per planted acre, 1987-89

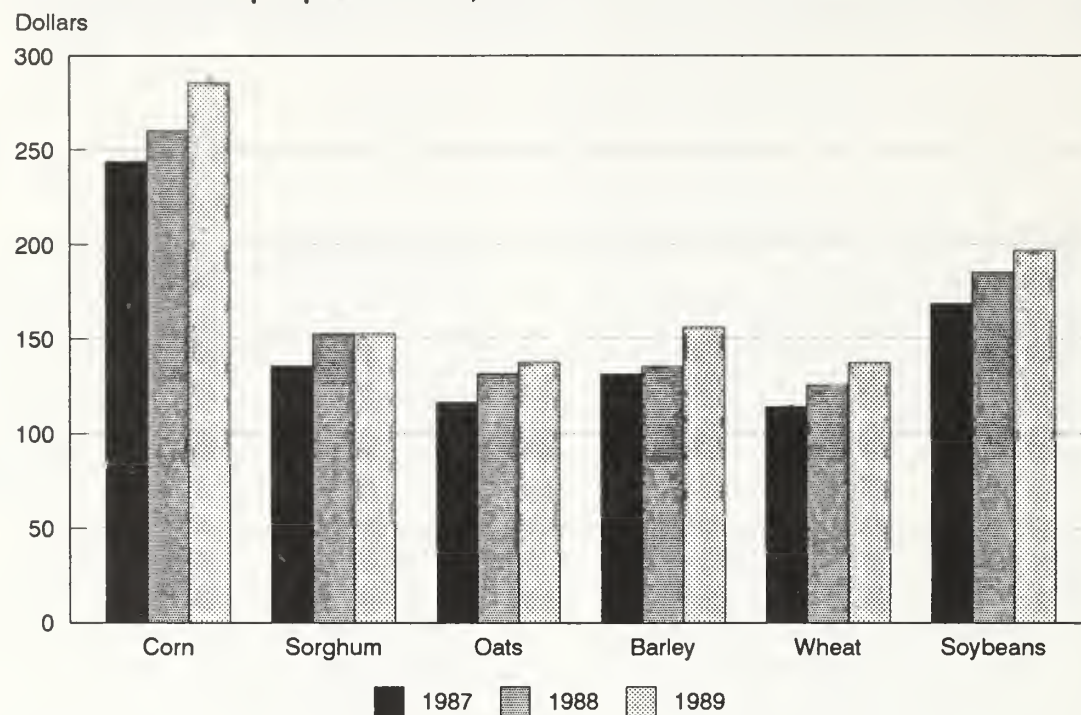
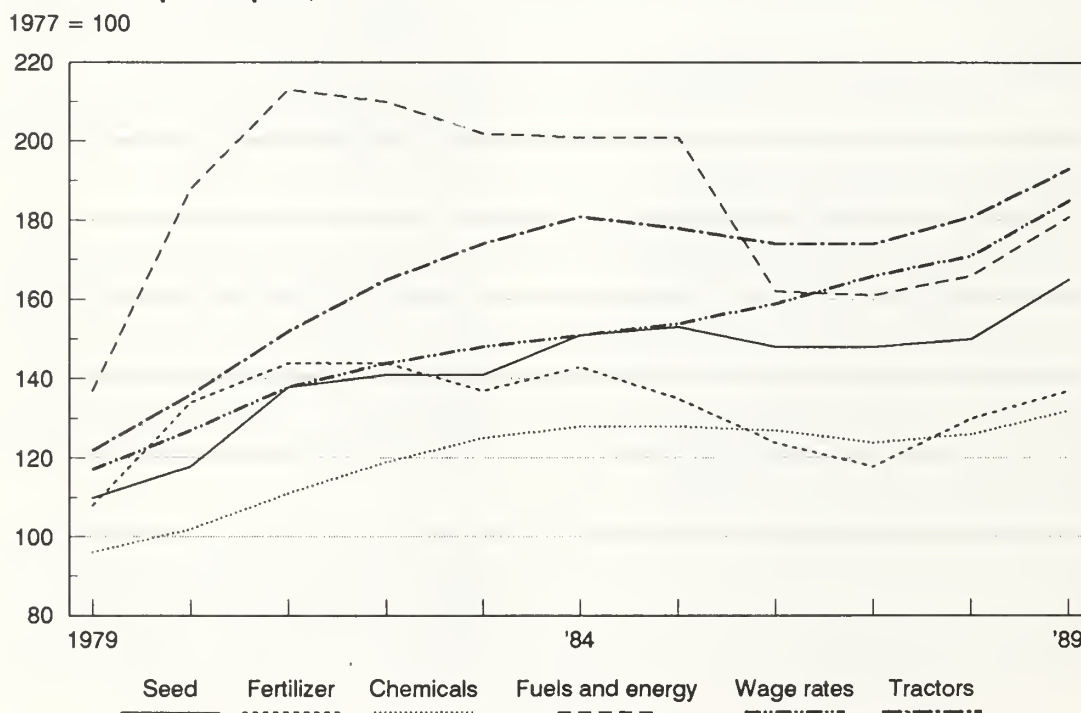


Figure 2
Indexes of prices paid, 1979-89



Grain sorghum--Total variable cash expenses per acre increased by 9 percent to \$61 per acre; total economic costs were unchanged. Sorghum yields and prices dropped, reducing the share rental cost of land and total economic costs. Yield fell by 13 percent in the Central Plains to 53 bushels per planted acre and by 19 percent in the Southern Plains to 48 bushels.

Oats--Variable cash expenses increased by 8 percent to \$49 per planted acre. Seed expenses, reflecting high 1988 oats prices, increased 14 percent to about \$10 per acre. Yields recovered dramatically from the 1988 drought, and prices fell. Gross value of production, including oats straw, fell from \$112 to \$97 per acre. Total economic costs increased 5 percent to \$138 per acre.

In the Lake States and Corn Belt, the largest oats-producing region, yield jumped to 65 bushels per acre, an increase of more than 60 percent from its drought-reduced level. Gross value of production per acre fell, however, to \$121 as the harvest-month oats price fell by more than a dollar per bushel. Seed expenses climbed 17 percent to \$11 per acre, and total variable cash expenses increased 8 percent to \$53. Total economic costs increased 6 percent to \$160 per acre. In the Northern Plains, total variable cash costs increased 13 percent to \$37 per acre and gross value of production fell to \$61, despite a 38-percent increase in yield. Northeast seed expenses edged up 5 percent, while fertilizer expenses increased 7 percent to \$30. Total variable cash expenses and total economic costs climbed 8 percent to \$85 and \$190.

Barley--Variable cash expenses increased 13 percent to \$59 per acre. Seed expenses increased 35 percent to \$9 per acre, reflecting high 1988 barley prices. Gross value of production increased when yield more than doubled and the harvest-month barley price fell by just 9 percent.

Total variable cash expenses rose 15 percent to \$48 as seed cost jumped to over \$7 per acre in the Northern Plains. Total economic costs per acre rose 20 percent to \$135. In the Northwest, where barley is irrigated, total variable cash expenses rose 11 percent to \$96 per acre. Seed cost rose to \$11 per acre, and fuel and fertilizer costs increased to \$18 and \$19 per acre, respectively. Total economic costs climbed 9 percent to \$227 per acre. Northwest yield rose about 4 bushels to 64 bushels per planted acre, and the price of barley,

chiefly feed barley, held steady. Total variable cash costs rose 8 percent to \$89 per acre and total economic costs increased 7 percent to \$207 in the Northeast.

Wheat--Total variable cash costs rose 10 percent to \$51 per acre. Seed costs increased by more than 20 percent to \$8 per acre, and total economic costs rose 10 percent to \$137 per acre.

Variable cash expenses rose slightly to \$40 per acre in the Central Plains. Total economic costs fell from \$114 to \$108 as yield dropped 40 percent, resulting in an \$8 decline in the charge for wheat land. Northern Plains yield nearly doubled from its 1988 drought level, and total economic costs rose 25 percent to \$124. Total variable cash expenses increased 15 percent to \$41. North-Central seed expenses rose 20 percent, pushing total variable costs to \$65 per acre. Economic costs climbed 14 percent to \$212, as both wheat yield and price increased. Costs rose less sharply in the Southeast and Southern Plains. Variable cash expenses and total economic costs rose 5-7 percent to \$151 and \$113. Northwest variable cash costs increased 7 percent to \$77, but total economic costs fell as yield dropped.

Rice--Variable cash expenses, both including and excluding program participation costs, rose about 5 percent between 1988 and 1989. Variable cash expenses including participation costs were slightly higher per acre than those excluding participation costs because of field operations, seeds, and chemicals used on acreage idled under the rice program. Fixed cash expenses changed little between 1988 and 1989 but were 7-16 percent higher, depending upon region, when direct Government payments were included. Portions of whole-farm fixed costs allocated to rice increased as direct Government payments increased rice's share of total value of production. Total economic costs, both including and excluding payments and participation costs, rose about 7 percent.

The difference between rice cost-of-production estimates including and excluding direct Government payments and participation costs was most striking in gross value of production, allocated returns to land, and residual returns to management and risk. Including payments increased gross value of production in 1989 by 83 percent from what it was, based solely on the market value of rice. Allocated returns to, or the cost of, land increased because Government payments were added to the share rental value of land planted to rice

and because additional acreage was required to be idled by program participants. The higher land costs increased total economic costs, but residual returns to management and risk also increased as the rise in costs was more than offset by higher gross value of production.

Soybeans--Variable cash expenses increased by 10 percent per acre to \$59 per acre. Seed expenses rose by \$3-\$15 per acre. In the North-Central region, which contains more than two-thirds of the U.S. soybean acreage, yield increased about 30 percent to 36 bushels, while Delta yield fell 4 bushels to 21 bushels and Southeast yield increased slightly to 25 bushels. Harvest-period soybean prices dropped sharply in 1989, and gross value of production fell despite higher yields. Total economic costs increased by 6 and 8 percent in the Southeast and North-Central regions, and fell by 4 percent in the Delta.

Peanuts--Costs per acre increased slightly for the second consecutive year. Total variable cash expenses and total economic costs rose 2 percent to \$303 and \$647 per planted acre, respectively. Fuel and chemical expenses rose while seed expenses fell, especially in Virginia and North Carolina. High yields on irrigated acreage in Texas led to a record yield for the State and pushed up the Southern Plains yield and gross value of production per acre. Residual returns to management and risk improved in the Southern Plains and declined in the Southeast and North Carolina and Virginia.

Cotton--National variable cash expenses rose slightly to \$260 per acre, despite a drop in ginning expenses due to decreased yield and lower ginning costs per pound. Chemical expenses, which along with ginning and hired labor are the major cash expenses for cotton, increased to \$49 per acre. Seed expenses, about 3 percent of variable cash expenses, fell slightly. Total economic costs rose 3 percent to \$481 per acre. Higher cotton prices caused gross value of production per acre to rise despite a 7-percent drop in U.S. yield.

In the Southern Plains, total economic costs fell as a 30-percent drop in yield, due to dry and cold weather, led to lower ginning charges and share rental values for land. In the Southwest and Southeast, where yields increased in 1989, costs rose about 10 percent, led by higher ginning expenses. Total variable cash expenses rose slightly in the Delta.

Sugar beets--National total cash expenses increased 4 percent per acre and 3 percent per net ton in 1989. Seed expenses fell while all other variable cash expenses increased. Per-acre cash costs were highest in California and lowest in Minnesota and eastern North Dakota. Per-net-ton cash costs were lowest in Minnesota and eastern North Dakota and highest in western Idaho and Oregon and California. Total economic costs per net ton were also lowest in Minnesota and eastern North Dakota along with Michigan and Ohio and highest in western Idaho and Oregon. Lower than normal yields in Colorado, Nebraska, southeastern Wyoming, Texas, western Idaho, and Oregon resulted in negative net returns for growers in these regions.

Sugarcane--Total economic costs increased 2 percent per acre excluding Hawaii, and rose 5 percent in Hawaii. Costs per net ton climbed as yields fell slightly. Texas yield and price dropped sharply because a December 1989 freeze lowered the amount of cane milled and sucrose content. Hired labor accounted for almost half of total variable costs for the 1989 sugarcane crop.

Structure of Accounts

ERS cost-of-production accounts include estimates of both cash expenditures and noncash costs. Cash expenditures are incurred when factors of production are purchased or rented. Noncash costs occur when factors are owned. For example, if a farmer fully owns the land used to produce corn, he would have no expenditure for land rental or for loans to pay for the purchase of land. Yet, an economic cost arises. By owning the land and using it to grow corn the farmer forgoes income from other uses of the land, such as renting it to another producer. If a farmer uses savings to pay for operating inputs, such as seed, fertilizer, chemicals, and fuel, and thus pays no interest on operating loans, there is an economic cost to using his own capital, cropland, and unpaid labor from the returns that they would have earned in alternative uses. Owned inputs are not without cost.

ERS combines in a single account the production costs and returns of farm operators and landlords. If a landlord pays a share of a farmer's costs, such as fertilizer, as part of a rental agreement, then those costs

are added to the operator's costs and subtracted from the rental value of the land. Land rent is not included as a *cash* expense because what is a rental expense to the farm operator is offsetting income to the landlord. An ownership cost is imputed instead to land and is included as an economic cost (fig. 3).

Production costs are balanced with values of production. Total economic costs plus residual returns to management and risk, which may be thought of as a production cost, are equal to gross value of production. Excluded are marketing costs and returns. Costs, including hauling and drying, are measured to the point of first sale or storage. Storage costs are excluded and crops, except sugar crops, are valued at their time of harvest. *Gross value of production minus cash expenses* is a short-term return to production and measures the amount of cash that would be left to cover longer term costs, such as machinery replacement, to retire debt, or, in the case of producers who rent land, to pay land rental.

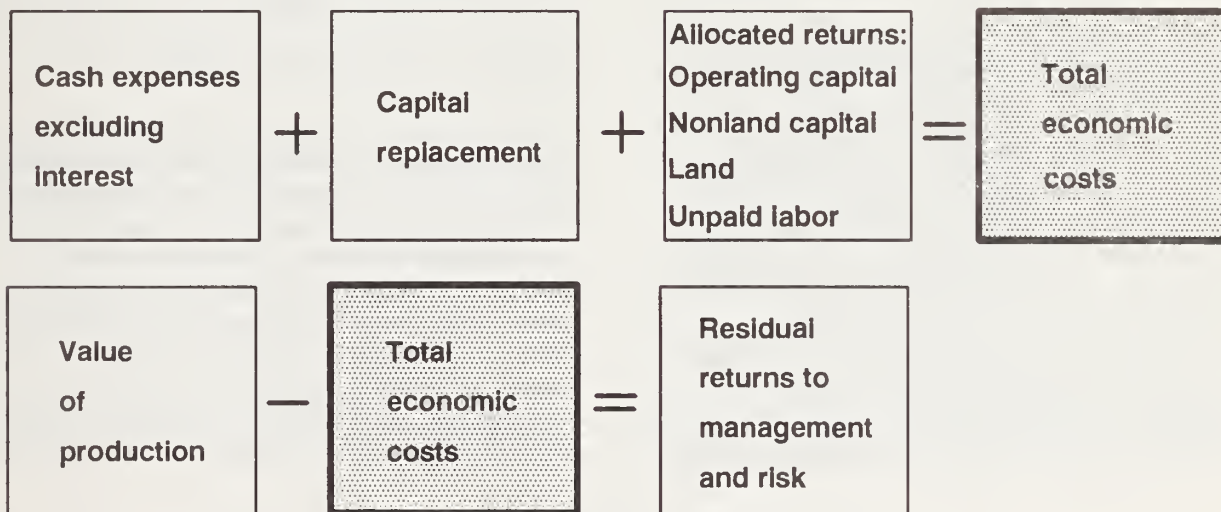
ERS prepares production cost estimates on a per-planted-acre basis. Costs are included only for acreage that was planted with the intention of being harvested for grain. Excluded are corn and sorghum silage and small grains planted only as cover crops or for grazing. Costs are included for production that is abandoned because of crop damage. On double-cropped acreage (two crops on the same land in the same growing season), land costs are divided between the two crops. For crops that are planted following a fallow season, 2 years of land costs are counted.

ERS divides costs per acre by actual yield to estimate production costs per bushel, hundredweight, or pound *harvested*. Because actual yields are used, rather than expected or normal yields, costs per unit of yield are subject to variation in weather. If unusual weather, such as drought, depresses yield then costs per bushel, hundredweight, or pound harvested will be greater than expected.

Most major field crops are produced on farms growing more than one crop; farm machinery, equipment, buildings, and their costs are shared by the various enterprises on the farm. ERS allocates machinery operating costs and capital replacement costs to a particular crop enterprise based on estimates of hours that the machine is used on that crop relative to total hours of annual use. General farm overhead expenses and interest payments are allocated to an individual crop based on that crop's share of gross value of production.

Some major field crops yield secondary crops, for example, cottonseed from cotton, straw from oats, barley, and wheat, and beet tops from sugar beets. Production costs for the secondary crops cannot be separated from those of the major crops. Therefore, ERS includes estimates of the values of production of secondary crops in order to balance production costs with gross value of production. The value of a secondary crop, especially straw in the Northeast, can be considerable.

Figure 3
Structure of accounts



Government Programs and Costs of Production

Government commodity programs most prominently affect ERS cost-of-production accounts through crop prices. ERS allocates some whole-farm expenses and calculates share rental costs and residual returns to management and risk from crop prices. The market prices that ERS uses can be influenced by Government nonrecourse loan and marketing loan programs. Thus, effects of these programs on prices are included in the cost-of-production estimates. Direct Government payments and participation costs in farm income support programs, however, are generally excluded.

The Government's Commodity Credit Corporation (CCC) operates nonrecourse loan programs for corn, grain sorghum, barley, oats, wheat, rice, soybeans, peanuts, upland cotton, sugar beets, and sugarcane. The programs enable producers to use a crop as collateral for a nonrecourse loan. (Sugar processors and millers, instead of producers, may place sugar beets and sugarcane under loan and must pass some of the price benefits back to the producers.) Producers may either repay the loan and sell the crop on the market or forfeit the crop to the CCC at no cost other than storage. Prices are supported as crops are temporarily removed from the market.

Marketing loan programs, which operate for rice and cotton, allow prices to fall below CCC loan rates. Participants can repay loans at either the loan rate or the world price, whichever is lower. Proceeds from marketing loans, that is, the difference between the world price and the nonrecourse loan rate, are included only in the additional rice estimates that incorporate direct Government payments.

The Government operates deficiency payment programs for corn, grain sorghum, barley, oats, wheat, rice, and upland cotton. Farmers and landlords, if they participate in the programs, may receive *direct payments* based on proven yields. Payment rates are calculated as the lesser of either the difference between the CCC loan rate and the Government-established target price or the market price and the target price. A participant may be required to idle acreage that would have been planted to the crop in return for direct payments on the remaining acreage. Participants may also be required to incur costs by maintaining a cover crop or controlling weeds on the idled acreage. ERS has not included the participation costs and the direct payments

in the cost-of-production estimates. Beginning with the 1988 rice estimates, ERS presents an additional set of cost-of-production estimates that includes direct Government payments and program participation costs. Included are costs and returns associated with both planted rice acreage and with acreage idled by participants in the rice program.

Gross Value of Production

ERS accounts begin with estimates of value of production per acre for each crop. Gross value of production is defined as the value of the primary and secondary crops at the time of harvest. ERS generally excludes deficiency payments, paid land diversions, and marketing loan proceeds from gross value of production. Also excluded are income from crop insurance indemnities and disaster assistance payments. An additional set of estimates for rice includes deficiency payments and marketing loan proceeds. There was no paid land diversion for rice.

Variable and Fixed Cash Expenses

Cash expenses represent the amount of money spent during the production process. Variable cash expenses include seed, fertilizer, chemicals, custom operations, hired labor, fuel, repairs, purchased irrigation water, drying, cotton ginning, and technical services, such as insect scouting and soil testing. Variable expenses depend upon production practices and quantities of inputs used and their prices. Fixed cash expenses include taxes and insurance, general farm overhead, and interest paid on operating loans and real estate loans. Fixed cash expenses, which are difficult to attribute directly to a specific enterprise on a farm, are allocated to each crop based on its relative value of production.

Economic (Full-Ownership) Costs

Economic costs are long-term costs that account for all production inputs, without regard to the ownership or equity positions of farm operators. Full-ownership costs are charged. Economic costs include both variable and fixed cash expenses except interest payments, capital replacement, and imputed costs of land, unpaid labor, and capital invested in production inputs and machinery. Cash expenses are valued by market prices or by expenditures reported by farmers. Noncash costs are measured from values of capital, land, and unpaid labor in alternative uses. They are

called returns to owned inputs, in accord with the full-ownership definition.

Capital replacement. Capital replacement is the portion of the value of machinery and equipment, in addition to repairs, that is used up in the production of a particular crop. It is based on the current value of the machinery. Capital replacement may be regarded as a discretionary expense in any particular year. It may be deferred when income is low but ultimately must be paid to maintain the capital stock.

Operating and other nonland capital. The cost of, or the return to, operating capital is the cost of carrying input expenses from the time they are used until harvest. ERS measures the return to operating capital at the annual average rate on 6-month U.S. Treasury bills. The return to other nonland capital is the cost of having capital invested in farm machinery and equipment. ERS defines this cost as equal to the sectorwide longrun rate of return to production assets from current income.

Land. Cropland is a specialized input. Its value depends on the value of the crops that it produces, which is reflected in share and cash rental costs. Because an alternative use for land for any one landowner is to rent it to someone who will produce the same crop, ERS values land in the cost-of-production accounts at its rental value. The land rental rates for each crop are composite share and cash rental rates. ERS calculates the share rental value directly from the actual yield and price of the crop. Cash rental rates, which are fixed at the outset of production, presumably reflect expectations about crop yields and prices. The net land rent (gross rent minus real estate taxes and the value of inputs supplied by landlords) is applied to all acreage, regardless of whether it is owned or rented by the farm operator.

Government commodity programs, which support crop prices and make payments to farm operators and landlords based on yields, affect the costs of land. When ERS excludes direct Government payments from gross value of production, it also excludes the payments from the share rent. Including the payments would increase the share rental charge when the crop's market price is below the direct Government payment level.

Unpaid labor. Labor costs are divided between hired and unpaid labor depending upon whether a cash wage

is paid. ERS counts hired labor as a variable cash expense and imputes a value to unpaid labor based on estimated hours worked and average agricultural wage rates. Unpaid labor is included as an economic cost. Additional value of labor, such as for managerial and entrepreneurial skill, is reflected in residual returns.

Residual returns to management and risk. The difference between gross value of production and total economic costs, which include returns to capital and land, is residual returns to management and risk. Returns to management are expected to be positive, though their level is not known. Because of variability in weather and crop prices, which are beyond a farmer's control, returns to risk in any particular year may be positive or negative. Over time, however, they should average zero. Combined returns to management and risk, therefore, are expected to be positive.

For some crops, the average returns to management and risk shown in ERS accounts have been consistently negative in recent years. Because direct Government payments are excluded from the accounts, the estimated gross value of production may be less than what farmers actually receive. Although costs, particularly land, would also increase if direct Government payments were included, residual returns may be greater than shown.

Data Sources and Estimation Procedures

The primary data source for annual cost-of-production estimates is the Farm Costs and Returns Survey (FCRS). It is supplemented with price and production data from other sources, mainly *Agricultural Prices* (5) and *Crop Production* (6). Seed, fertilizer, and machinery operating costs are generally derived from producers' descriptions of inputs, field operations, and machinery used on a particular crop and from input price and machinery performance data. Other variable cash expenses and fixed cash expenses come from producers' estimates of expenditures. For sugar beets and sugarcane, all cash expenses come directly from growers' estimates of expenditures.

ERS calculates cost-of-production estimates using computerized "budget generators." The budget generator used for most estimates in this publication is based on the Firm Enterprise Data System (FEDS). Modifications have been made to FEDS so that the

estimates conform to current ERS definitions and structure of accounts. FEDS "budgets" are constructed at the State level, and regional and national cost-of-production estimates are made by adding the State-level costs per acre in proportion to the acres of a crop planted in each State. Beginning with 1988-89 rice estimates in this report, ERS uses a newly developed farm-level budget generator to produce regional and national cost estimates.

Farm Costs and Returns Survey

The FCRS is conducted annually by ERS and the National Agricultural Statistics Service (NASS). Each year there are multiple versions of the FCRS: an indepth whole-farm version and commodity cost-of-production versions. All versions have common questions about whole-farm expenses and income. Each cost-of-production version gathers more detailed information about input use, field operations, and production costs of a particular crop. Because of survey costs, USDA cannot undertake detailed cost-of-production surveys of every major field crop in every year. Instead, the FCRS covers each commodity in detail about every 4 years. Rice, oats, sugar beets, and Louisiana and Texas sugarcane were covered by the FCRS in 1988; barley, corn, cotton, and peanuts were covered in 1987; sorghum, soybeans, and wheat in 1986. ERS updates the FCRS-based costs from other data sources in nonsurvey years.

The FCRS is a multiframe stratified survey. The sample is drawn from stratified list and area frames. For a particular cost-of-production version, the list frame is made up of farms known to have previously produced the commodity. The list frame is stratified by size. The area frame is made up of land segments, stratified by land use. Each sampled farm represents a number of similar farms, the particular number being the survey expansion factor, which is the inverse of the probability of the sampled farm being selected. Data are expanded by the survey expansion factors to produce estimates for the population of all farms producing the commodity.

Farmers are interviewed in person by field enumerators using questionnaires developed by NASS and ERS. The FCRS takes place during February and March, with questions being asked about production in the previous year.

Gross Value of Production

ERS calculates gross value of production per acre for each crop by multiplying the harvest-month price for the crop times its per-planted-acre yield. State-level yields and prices are updated annually from *Crop Production* (6) and *Agricultural Prices* (5) and are aggregated to regional and national estimates. Data on direct Government payments, when included, come from USDA's Agricultural Stabilization and Conservation Service (ASCS). Sugar-beet and sugarcane prices are based on factory or mill payments to growers.

Variable Cash Expenses

Seed. Data on seed expenses come from the FCRS and NASS. Seeding rates and the proportions of seeds that are purchased and that are produced on the farm are determined from the FCRS. NASS furnishes commercial seed prices. Homegrown seed is valued at the previous year's average price for the crop plus an allowance for cleaning and treating. Seeding rates are held constant between surveys. ERS updates seed prices annually.

Fertilizer. ERS calculates fertilizer costs by multiplying prices per-pound-of-primary nutrient (the same for all crops) by the pounds of nutrients applied to each crop. ERS estimates nutrient prices for each year by weighting prices of fertilizer by the amount of each nutrient in each commercial fertilizer mixture used in each State. Prices and compositions of commercial fertilizers come from *Agricultural Prices* (5). Data on the amount of fertilizers used come from *Commercial Fertilizers* (2). The FCRS supplies fertilizer rates for each crop. Rates of application of lime, gypsum, secondary nutrients, and micronutrients for each crop are also obtained from the FCRS. Annual prices of lime come from *Agricultural Prices* (5), gypsum from major suppliers, and secondary and micronutrients from the *Chemical Marketing Reporter* (1).

Chemicals. ERS estimates cost of chemicals used in crop production from expenses reported in specialized versions of the FCRS. Producers state their expenses for pesticides, growth regulators and defoliant. In nonsurvey years, ERS adjusts chemical expenses by the annual change in the index of prices paid for agricultural chemicals in *Agricultural Prices* (5).

Custom operations. When a producer hires machinery and labor to perform a farming operation, ERS counts the cost as a custom operation. Services that are often custom-hired are rice seeding from airplanes, crop spraying, and hauling grain to an elevator. Expense data for custom operations for a crop come from the cost-of-production versions of the FCRS. Custom operation costs are adjusted between surveys by the index of farm services and cash rent, which is published in *Agricultural Prices* (5).

Fuel, lube, and electricity. Fuel, lubrication, and electricity are the cost of fuel and power used by tractors, harvesters, trucks, pickups, and irrigation pumps. ERS estimates fuel, lubrication, and electricity costs from FCRS and engineering performance data. FCRS data indicate the machines, their sizes, and the acres they cover. These data are combined in the budget generator with engineering specifications of speed and field efficiency to arrive at hours of use per acre. The number of hours each machine is used is multiplied by a fuel consumption rate that is related to the size of the machine and the type of fuel. ERS estimates electricity costs of pumping irrigation water from FCRS data on well, pump, and motor sizes and the hours that water is pumped. ERS estimates the lubrication costs at 15 percent of fuel costs. Fuel prices are updated annually. ERS obtains prices of gasoline, diesel, and liquefied petroleum gas from *Agricultural Prices* (5) and subtracts Federal and State taxes on gasoline that are refunded for agricultural use. Natural gas prices are obtained from the Department of Energy, electricity prices from the Edison Electric Institute. Machinery performance data come from the American Society of Agricultural Engineers (ASAE) and are updated periodically as ASAE standards are published.

Repairs. Hours of machine use form the basis of the estimate of repair costs. ERS first calculates the total accumulated repairs for a machine based on the list price and age of the machine and engineering relationships measured in the Nebraska tractor tests. Total accumulated repairs for a machine are then divided by an estimate of the total accumulated hours that the machine has been used. The resulting repair rate per hour is multiplied by the hours that the machine is used in the production of the crop. List prices for machinery are updated annually from producer price indexes for farm machinery published by the Department of Labor.

Hired labor. ERS currently follows two approaches to estimating labor costs for a crop. The first approach, which applies to all estimates except sorghum, soybeans, and wheat, arrives at the hired labor cost from producers' estimates of the portion of whole-farm cash expenses for labor that was for the particular crop. The crop-specific versions of the FCRS ask farmers for their total expenses for contract labor, cash wages, bonuses, value of noncash benefits, and the percentage of each item that was for the particular crop. In nonsurvey years the hired labor cost is adjusted by the percentage change in the State-level agricultural wage rate. The second approach, which applies to the sorghum, soybean, and wheat estimates in this publication as well as all estimates published before 1988, counts hours of labor per acre of a crop in relation to hours of machinery use plus hours of hand labor. Machinery labor is 110 percent of tractor time and 120 percent of self-propelled implement time. Irrigation labor is related to the type of irrigation system and the hours that water is pumped. Additional hours of hand labor come from the FCRS. The total hours of labor are distributed between paid and unpaid (a noncash cost included as an allocated return) based on the portion of labor on crop farms that was paid a cash wage. Hours of labor are multiplied by wage rates, published in *Farm Labor* (7), and include an allowance for the employer's share of Social Security. Wage rates are updated annually.

Purchased irrigation water. The cost of water purchased from irrigation districts and the cost of pumping private association water are listed by ERS as purchased irrigation water. The cash costs of pumping water from a producer's own wells are included in fuel, lubrication, and electricity, repairs, and labor. Data on expenses for purchased water come from the FCRS.

Drying. ERS includes drying costs for corn, sorghum, peanuts, and rice. To estimate drying costs, ERS uses commercial rates and specifications of fuel types and initial moisture content. Data are from the FCRS and engineering relationships on the energy required to remove moisture. Fuel prices and production data are updated annually.

Ginning. Cotton ginning costs per acre, updated annually, are based on costs of ginning per bale and cotton yield per acre. Data on ginning charges per bale come from annual ERS staff reports. Cotton yield data come from *Crop Production* (6).

Freight and dirt hauling. ERS includes sugar-beet freight and dirt-hauling charges from the FCRS, including deductions made by processors to equalize freight costs among growers and to minimize the dirt hauled to the processing plant. Hauling allowances, which are paid to some sugar-beet and sugarcane growers, are listed separately and subtracted from variable cash expenses.

Miscellaneous and technical services.

Miscellaneous costs include baling wire for straw, levee gates for rice, and, for sugar beets, deductions by processors for testing and expenses for association dues, disease control, and research activities. Data on miscellaneous expenses come from the FCRS.

Technical services include soil testing, scouting, and land surveying. As with custom operations, data on expenses for technical services are drawn from the specialized versions of the FCRS and updated annually by the index of farm services and cash rent. Technical services for oats, sugar beets, and sugarcane are included in the custom operations cost item.

Fixed Cash Expenses

General farm overhead. General farm overhead is expenses for electricity and nonirrigation water for general farm use, telephone, farm shop and office equipment and supplies, fence maintenance and repairs, water drainage, farm share of motor vehicle registration and licensing fees, accounting and legal fees, business travel, dues for memberships in farm organizations, farm share of liability and blanket insurance policies, and herbicides used to maintain farm roads and ditches.

ERS uses two methods to allocate the general farm overhead expenses to particular crop accounts. The first method, which applies to all estimates except sorghum, soybeans, and wheat, totals general farm overhead expenses for all farms growing each crop in its FCRS year. General farm overhead costs are then allocated according to the crop's value of production as a proportion of total value of production in the FCRS year and adjusted in nonsurvey years by the percentage change in total general farm overhead expenditures for all farms. The second method, which applies to soybeans, sorghum, wheat, and all estimates before 1986, first adds together the general farm overhead expenses on farms with more than 60 percent of their total value of production from field crops and then

allocates a portion of general farm overhead expenses to each field crop enterprise in proportion to its gross value of production. This method recognizes that the amount of general farm overhead attributed to a particular crop varies from year to year as gross value of production varies, even if the overall expense for general farm overhead is constant. Data used in both approaches come from whole-farm questions asked annually on the FCRS.

Taxes and insurance. Taxes on a crop enterprise are estimated on machinery and on farm real estate. ERS calculates a tax cost for each machine based on the current purchase price of the machine, lagged 4 years to represent an average age, and an average tax rate for agricultural machinery. ERS estimates taxes on farm real estate by dividing total annual real estate taxes paid by the acres of farmland owned. ERS estimates the annual insurance charge for machinery in a manner similar to taxes on machinery. Data on machinery prices are updated annually from *Agricultural Prices* (5). Data on real estate taxes come from the specialized versions of the FCRS and are updated between surveys by State-level changes in real estate taxes.

Interest. ERS allocates a portion of whole-farm interest expenses to each crop in a manner similar to general farm overhead. Interest on operating loans includes finance charges and service fees on loans for machinery, the farm share of motor vehicles, fertilizer, seed, chemicals, and other inputs. Interest on real estate includes interest and service fees on farm business loans, land contracts, and other loans secured by real estate. Data on interest expenses come from whole-farm questions asked annually on the FCRS.

Economic (Full-Ownership) Costs

Economic (full-ownership) costs include all cash expenses, except interest, plus capital replacement and imputed costs of operating capital, nonland capital, land, and unpaid labor.

Capital replacement. Capital replacement costs for machinery, vehicles, and irrigation equipment are based on per-hour rates that the value of each machine, vehicle, or piece of equipment is used and on the hours per acre that each is used in the production of a crop. ERS calculates hourly capital replacement per machine by dividing the machine's current purchase price, less salvage value, by the hours that the machine will be

used. ERS estimates the hours that farm machinery, vehicles, and irrigation equipment are used per acre of a crop from FCRS data on sizes, acres covered, miles driven, and water applied, plus performance data. Machinery prices are updated annually from *Agricultural Prices* (5). Performance data come from the American Society of Agricultural Engineers.

Operating and other nonland capital. ERS estimates the returns to operating capital by multiplying the value of inputs that are used up in production (seed, fertilizer, and fuel) by the time between their use and harvest, and by the cost of capital, which is the average interest rate on 6-month U.S. Treasury bills. The interest rates, reported by the Federal Reserve, for 1987, 1988, and 1989 were 6.05, 6.92, and 8.04 percent.

ERS estimates the return to other nonland capital by multiplying the current value of machinery and equipment used on a commodity by the rate of return to production assets from current income in the farm sector over the previous 10 years. ERS calculates the rate of return from data in *Economic Indicators of the Farm Sector: National Financial Summary, 1988*. The rates for the 10 years prior to 1987, 1988, and 1989 were 2.3, 2.6, and 2.9 percent.

Land. ERS allocates a net return to land based on its rental value in the production of a particular crop. The rental value is a composite of cash- and share-rental values. The cost-of-production versions of the FCRS measure cash rental rates and the percentage of production paid as share rent for each crop as well as the proportions of land cash- and share-rented. Nonsurvey year cash rental rates are updated from *Agricultural Resources: Land Values and Markets Situation and Outlook Report* (4). Share rents change annually as a crop's gross value of production, the product of yield and price, changes. The proportions of cash- and share-rented acreage are not changed in nonsurvey years. ERS subtracts real estate taxes, which are included under taxes and insurance, and the value of inputs paid by landlords from the rental values. ERS includes in the land charge a cost of co-op shares owned by sugar-beet growers in Minnesota and eastern North Dakota. ERS estimates a per-acre value of

peanut quota from FCRS data on quota cash rental rates.

Unpaid labor. ERS uses two approaches to estimate the amount and value of unpaid labor. The first approach measures the hours of labor for a crop from producers' estimates of average unpaid hours worked per week and the percentage of the unpaid time for that crop. The unpaid hours include the operator's time, if he was not paid a cash wage, and the time of all other unpaid workers. The second approach measures the hours of labor on a crop in proportion to the machinery used plus an estimate of the hours of hand labor. The portion of the total hours of labor that is unpaid is estimated annually from the FCRS. Under both approaches, ERS assesses the hours of unpaid labor at the agricultural wage rate published in *Farm Labor* (7).

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4. _____. *Agricultural Resources: Land Values and Markets Situation and Outlook Report*. Selected issues. 1987-89.
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Figure 4

Corn Production Regions

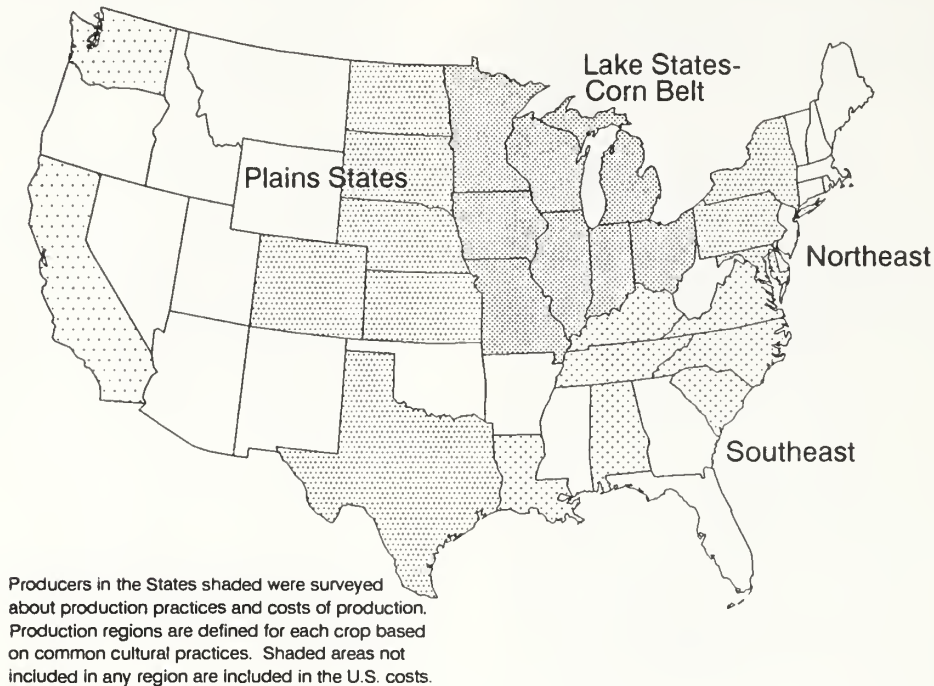


Figure 5

Sorghum Production Regions

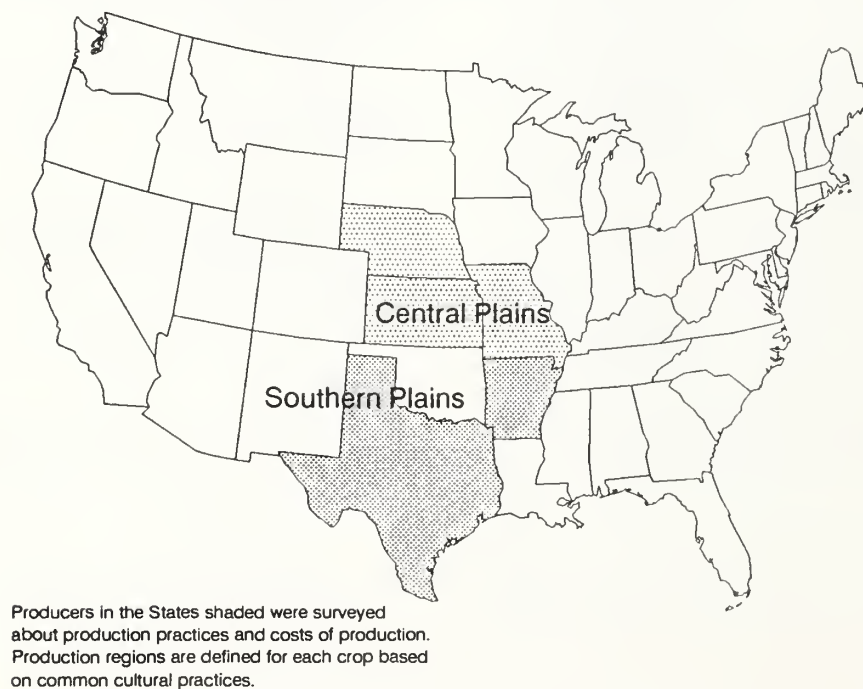
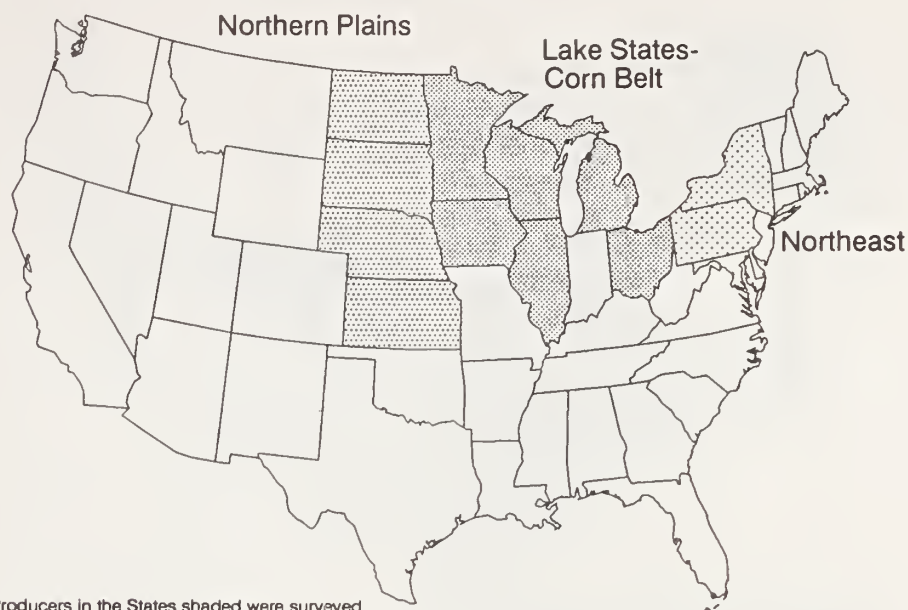


Figure 6

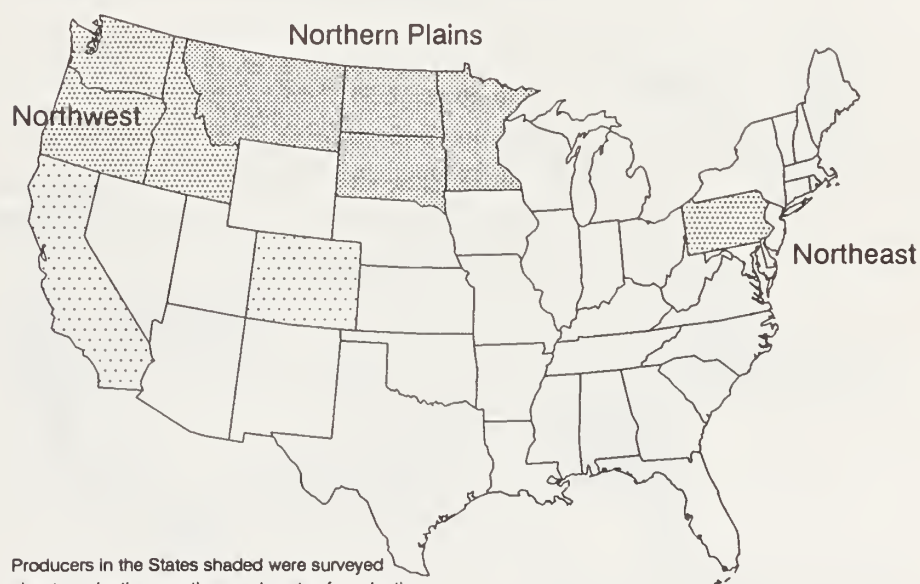
Oats Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 7

Barley Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices. Shaded areas not included in any region are included in the U.S. costs.

Figure 8

Wheat Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 9

Rice Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 10

Soybean Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 11

Peanut Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 12

Cotton Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 13

Sugar-Beet Production Regions

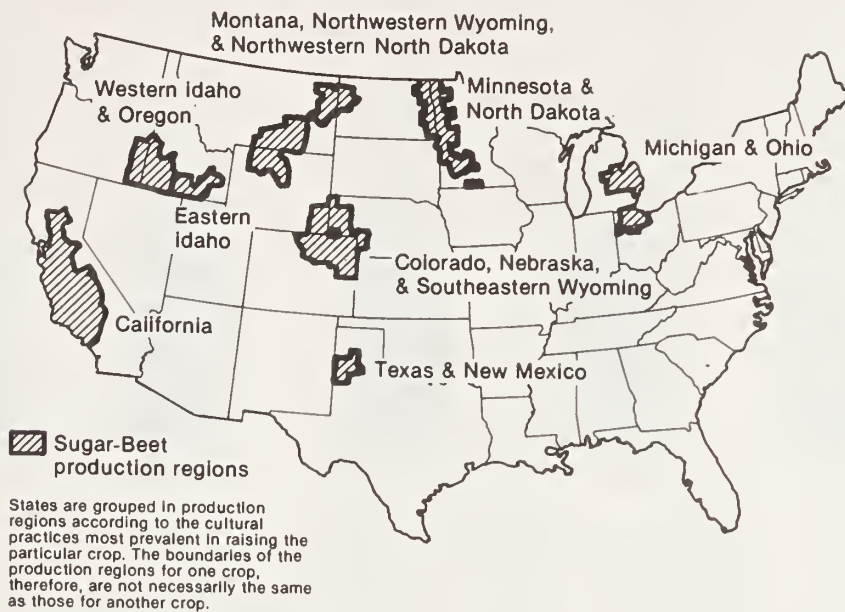


Figure 14

Sugarcane Production Regions



Figure 15

Corn production costs per planted acre, 1989

Dollars

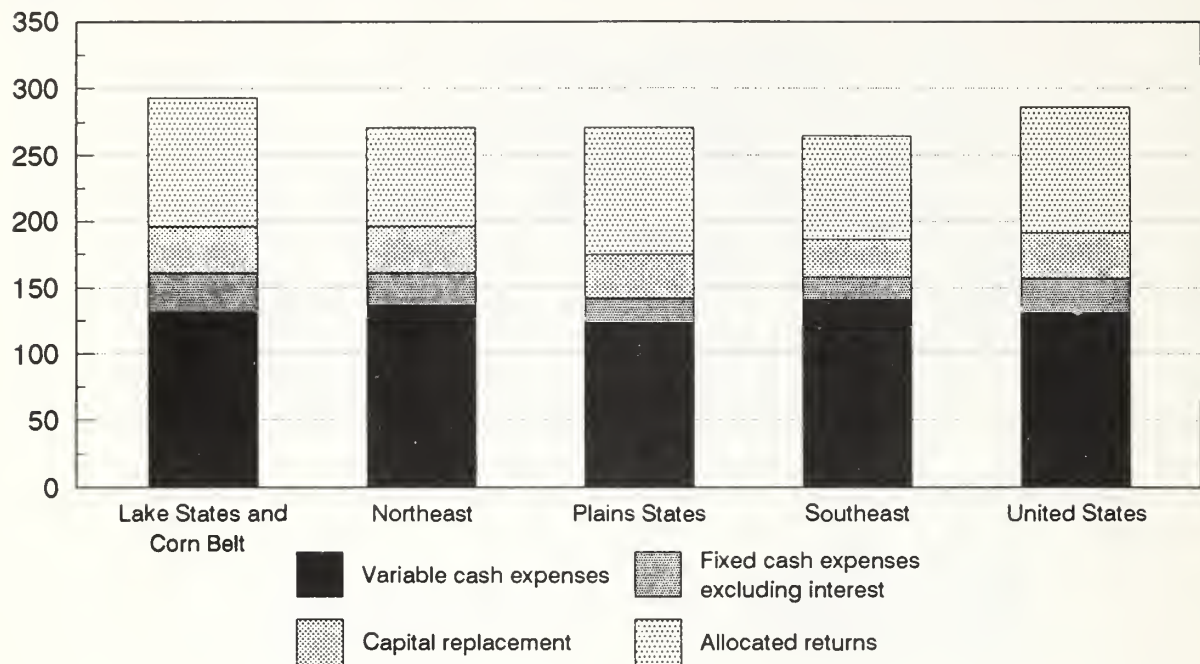


Figure 16

Corn production costs per bushel harvested, 1975-89

Dollars

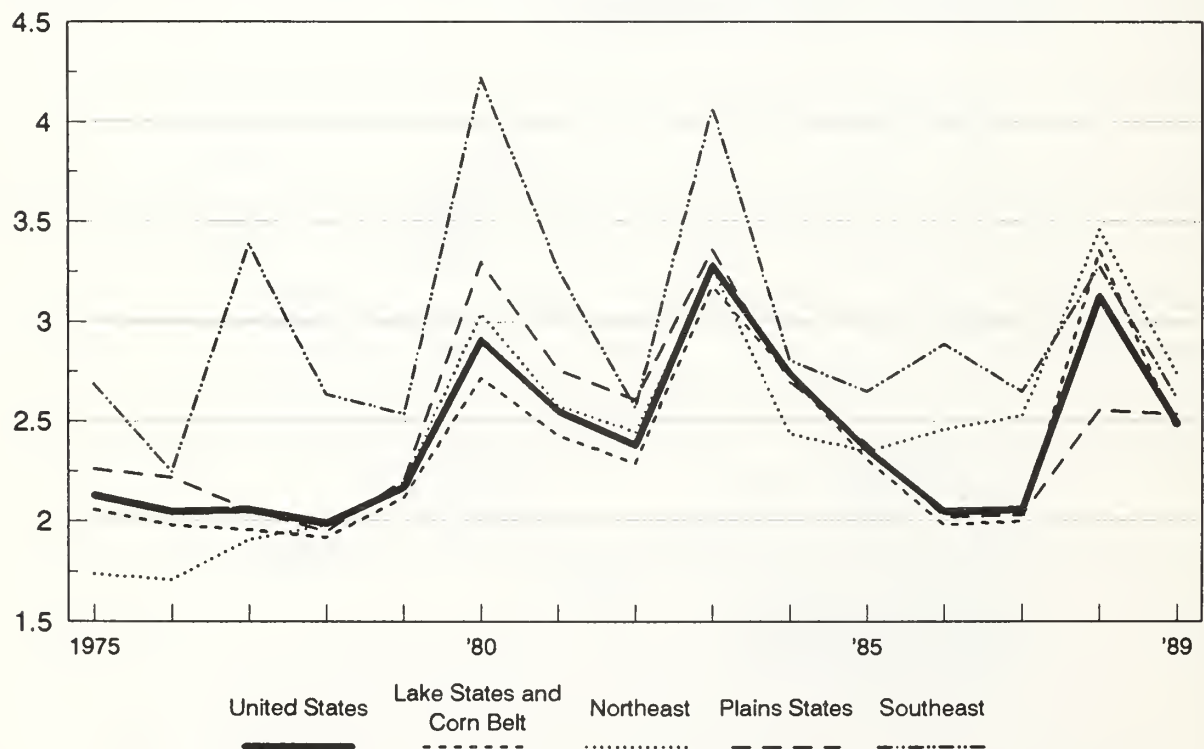


Table 1A--U.S. corn production cash costs and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	186.02	217.14	254.92
Total, gross value of production	186.02	217.14	254.92
Cash expenses:			
Seed	18.86	18.90	21.02
Fertilizer	35.25	43.09	45.05
Lime and gypsum	2.25	2.30	2.16
Chemicals	20.19	20.49	21.51
Custom operations	5.39	4.68	5.71
Fuel, lube, and electricity	10.60	10.63	11.88
Repairs	8.25	8.10	8.94
Hired labor	7.83	7.87	8.29
Purchased irrigation water	.31	.32	.31
Drying	8.20	5.96	8.24
Technical services	.26	.26	.26
Total, variable cash expenses	117.39	122.60	133.37
General farm overhead	10.15	10.81	10.42
Taxes and insurance	14.65	14.59	16.04
Interest on operating loans	5.45	4.91	5.08
Interest on real estate	10.66	10.03	10.05
Total, fixed cash expenses	40.91	40.34	41.59
Total, cash expenses	158.30	162.94	174.96
Gross value of production less cash expenses	27.72	54.20	79.96
Harvest-period price (dollars per bushel)	1.57	2.61	2.22
Yield (bushels per planted acre)	118.83	83.22	115.03

Table 1B--U.S. corn production economic costs and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	186.02	217.14	254.92
Total, gross value of production	186.02	217.14	254.92
Economic (full-ownership) costs:			
Variable cash expenses	117.39	122.60	133.37
General farm overhead	10.15	10.81	10.42
Taxes and insurance	14.65	14.59	16.04
Capital replacement	30.08	30.95	34.01
Operating capital ^{2/}	2.75	3.41	4.19
Other nonland capital ^{3/}	5.25	6.12	7.40
Land ^{4/}	44.26	52.83	60.97
Unpaid labor	20.04	21.26	22.04
Total, economic (full-ownership) costs	244.57	262.57	288.44
Residual returns to management and risk ^{5/}	-58.55	-45.43	-33.52
Harvest-period price (dollars per bushel)	1.57	2.61	2.22
Yield (bushels per planted acre)	118.83	83.22	115.03

See footnotes after Table 25B.

Table 2A--Corn production cash costs and returns per planted acre,
Lake States and Corn Belt, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	192.13	197.57	260.63
Total, gross value of production	192.13	197.57	260.63
Cash expenses:			
Seed	19.11	19.21	21.22
Fertilizer	38.57	48.09	49.31
Lime and gypsum	2.53	2.68	2.45
Chemicals	22.22	22.59	23.66
Custom operations	5.22	4.26	5.51
Fuel, lube, and electricity	7.57	7.06	8.32
Repairs	6.68	6.27	7.16
Hired labor	6.90	6.90	7.21
Drying	9.15	5.94	9.14
Technical services	.21	.21	.21
Total, variable cash expenses	118.16	123.21	134.19
General farm overhead	11.26	11.94	11.56
Taxes and insurance	16.80	16.60	18.20
Interest on operating loans	5.95	5.32	5.55
Interest on real estate	12.61	11.82	11.89
Total, fixed cash expenses	46.62	45.68	47.20
Total, cash expenses	164.78	168.89	181.39
Gross value of production less cash expenses	27.35	28.68	79.24
Harvest-period price (dollars per bushel)	1.53	2.56	2.18
Yield (bushels per planted acre)	125.69	77.19	119.47

Table 2B--Corn production economic costs and returns per planted acre,
Lake States and Corn Belt, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	192.13	197.57	260.63
Total, gross value of production	192.13	197.57	260.63
Economic (full-ownership) costs:			
Variable cash expenses	118.16	123.21	134.19
General farm overhead	11.26	11.94	11.56
Taxes and insurance	16.80	16.60	18.20
Capital replacement	30.83	31.41	34.72
Operating capital ^{2/}	2.76	3.45	4.20
Other nonland capital ^{3/}	5.21	5.95	7.27
Land ^{4/}	45.44	47.02	62.33
Unpaid labor	20.71	21.75	22.99
Total, economic (full-ownership) costs	251.17	261.33	295.46
Residual returns to management and risk ^{5/}	-59.04	-63.76	-34.83
Harvest-period price (dollars per bushel)	1.53	2.56	2.18
Yield (bushels per planted acre)	125.69	77.19	119.47

See footnotes after Table 25B.

Table 3A--Corn production cash costs and returns per planted acre,
Northeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	158.08	214.14	256.28
Total, gross value of production	158.08	214.14	256.28
Cash expenses:			
Seed	19.34	19.57	22.09
Fertilizer	36.67	43.78	48.86
Lime and gypsum	7.05	6.43	6.91
Chemicals	18.17	18.47	19.33
Custom operations	8.29	6.73	9.21
Fuel, lube, and electricity	9.71	9.71	11.40
Repairs	9.76	9.65	11.36
Hired labor	6.64	6.83	7.22
Drying	2.07	1.77	2.37
Technical services	.36	.36	.35
Total, variable cash expenses	118.06	123.30	139.10
General farm overhead	7.76	8.23	7.96
Taxes and insurance	15.26	15.47	16.84
Interest on operating loans	2.03	1.78	1.89
Interest on real estate	4.82	4.47	4.54
Total, fixed cash expenses	29.87	29.95	31.23
Total, cash expenses	147.93	153.25	170.33
Gross value of production less cash expenses	10.15	60.89	85.95
Harvest-period price (dollars per bushel)	1.77	3.08	2.60
Yield (bushels per planted acre)	89.20	69.61	98.72

Table 3B--Corn production economic costs and returns per planted acre,
Northeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	158.08	214.14	256.28
Total, gross value of production	158.08	214.14	256.28
Economic (full-ownership) costs:			
Variable cash expenses	118.06	123.30	139.10
General farm overhead	7.76	8.23	7.96
Taxes and insurance	15.26	15.47	16.84
Capital replacement	30.39	31.71	34.99
Operating capital 2/	2.72	3.37	4.26
Other nonland capital 3/	6.02	7.22	8.96
Land 4/	25.70	30.80	37.07
Unpaid labor	19.93	23.52	24.31
Total, economic (full-ownership) costs	225.84	243.62	273.49
Residual returns to management and risk 5/	-67.76	-29.48	-17.21
Harvest-period price (dollars per bushel)	1.77	3.08	2.60
Yield (bushels per planted acre)	89.20	69.61	98.72

See footnotes after Table 25B.

Table 4A--Corn production cash costs and returns per planted acre,
Plains States, 1987-89

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	183.27	274.62	235.64
Total, gross value of production	183.27	274.62	235.64
Cash expenses:			
Seed	17.81	17.83	20.06
Fertilizer	23.02	26.24	29.37
Lime and gypsum	.32	.32	.32
Chemicals	13.89	14.12	14.80
Custom operations	5.13	4.97	5.57
Fuel, lube, and electricity	20.30	21.78	23.00
Repairs	11.89	12.49	12.95
Hired labor	9.51	9.86	10.71
Purchased irrigation water	1.11	1.15	1.14
Drying	7.96	7.40	7.22
Technical services	.44	.46	.47
Total, variable cash expenses	111.38	116.62	125.61
General farm overhead	8.00	8.51	8.21
Taxes and insurance	10.02	10.06	10.87
Interest on operating loans	5.59	4.99	5.21
Interest on real estate	6.61	6.13	6.23
Total, fixed cash expenses	30.22	29.69	30.52
Total, cash expenses	141.60	146.31	156.13
Gross value of production less cash expenses	41.67	128.31	79.51
Harvest-period price (dollars per bushel)	1.59	2.60	2.21
Yield (bushels per planted acre)	115.23	105.48	106.57

Table 4B--Corn production economic costs and returns per planted acre,
Plains States, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	183.27	274.62	235.64
Total, gross value of production	183.27	274.62	235.64
Economic (full-ownership) costs:			
Variable cash expenses	111.38	116.62	125.61
General farm overhead	8.00	8.51	8.21
Taxes and insurance	10.02	10.06	10.87
Capital replacement	29.46	30.92	32.81
Operating capital ^{2/}	2.64	3.20	4.02
Other nonland capital ^{3/}	5.47	6.59	7.63
Land ^{4/}	49.41	77.94	63.75
Unpaid labor	17.70	19.05	20.36
Total, economic (full-ownership) costs	234.08	272.89	273.26
Residual returns to management and risk ^{5/}	-50.81	1.73	-37.62
Harvest-period price (dollars per bushel)	1.59	2.60	2.21
Yield (bushels per planted acre)	115.23	105.48	106.57

See footnotes after Table 25B.

Table 5A--Corn production cash costs and returns per planted acre,
Southeast, 1987-89

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	145.21	204.11	246.18
Total, gross value of production	145.21	204.11	246.18
Cash expenses:			
Seed	18.98	18.61	21.41
Fertilizer	40.83	49.70	52.48
Lime and gypsum	3.15	3.09	3.24
Chemicals	21.68	21.99	23.08
Custom operations	5.83	6.37	6.24
Fuel, lube, and electricity	8.71	8.38	10.58
Repairs	9.54	9.68	11.88
Hired labor	9.77	9.64	10.15
Drying	3.67	3.12	4.66
Technical services	.09	.09	.08
Total, variable cash expenses	122.25	130.67	143.80
General farm overhead	7.08	7.64	7.27
Taxes and insurance	8.42	8.45	9.50
Interest on operating loans	2.20	1.91	2.05
Interest on real estate	6.58	6.42	6.20
Total, fixed cash expenses	24.28	24.42	25.02
Total, cash expenses	146.53	155.09	168.82
Gross value of production less cash expenses	-1.32	49.02	77.36
Harvest-period price (dollars per bushel)	1.79	2.87	2.44
Yield (bushels per planted acre)	81.02	71.12	101.08

Table 5B--Corn production economic costs and returns per planted acre,
Southeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Corn	145.21	204.11	246.18
Total, gross value of production	145.21	204.11	246.18
Economic (full-ownership) costs:			
Variable cash expenses	122.25	130.67	143.80
General farm overhead	7.08	7.64	7.27
Taxes and insurance	8.42	8.45	9.50
Capital replacement	23.64	24.31	28.39
Operating capital ^{2/}	2.84	3.51	4.34
Other nonland capital ^{3/}	4.44	5.30	6.94
Land ^{4/}	26.41	34.31	45.55
Unpaid labor	19.36	21.43	21.30
Total, economic (full-ownership) costs	214.44	235.62	267.09
Residual returns to management and risk ^{5/}	-69.23	-31.51	-20.91
Harvest-period price (dollars per bushel)	1.79	2.87	2.44
Yield (bushels per planted acre)	81.02	71.12	101.08

See footnotes after Table 25B.

Figure 17

Sorghum production costs per planted acre, 1989

Dollars

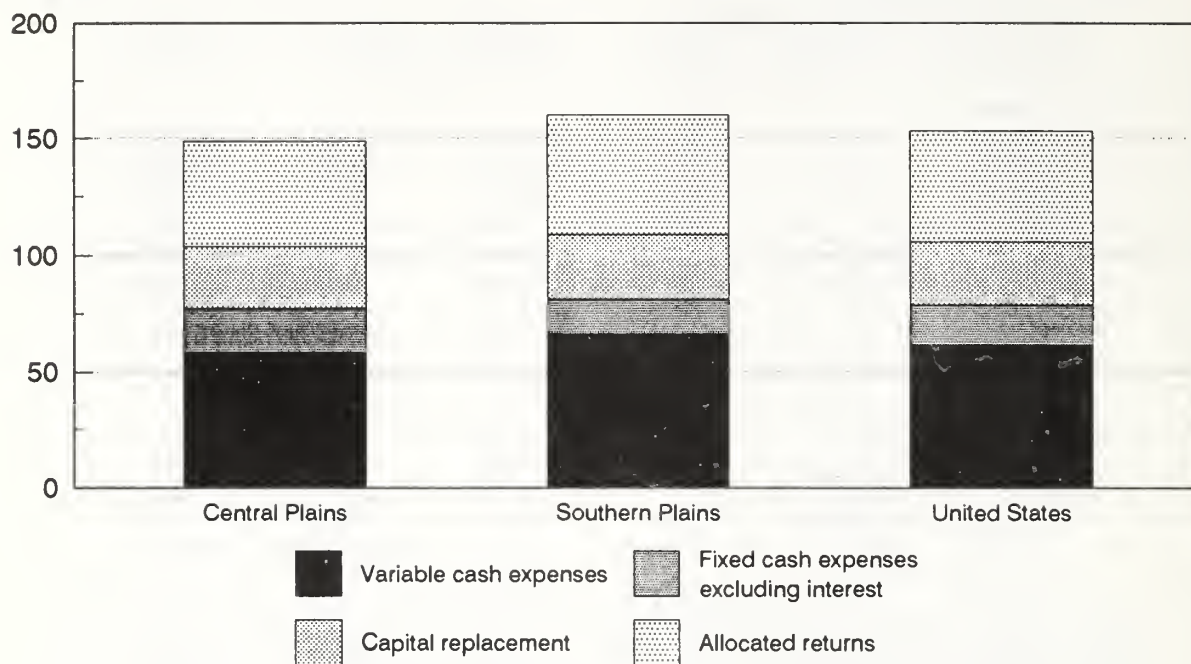


Figure 18

Sorghum production costs per bushel harvested, 1975-89

Dollars

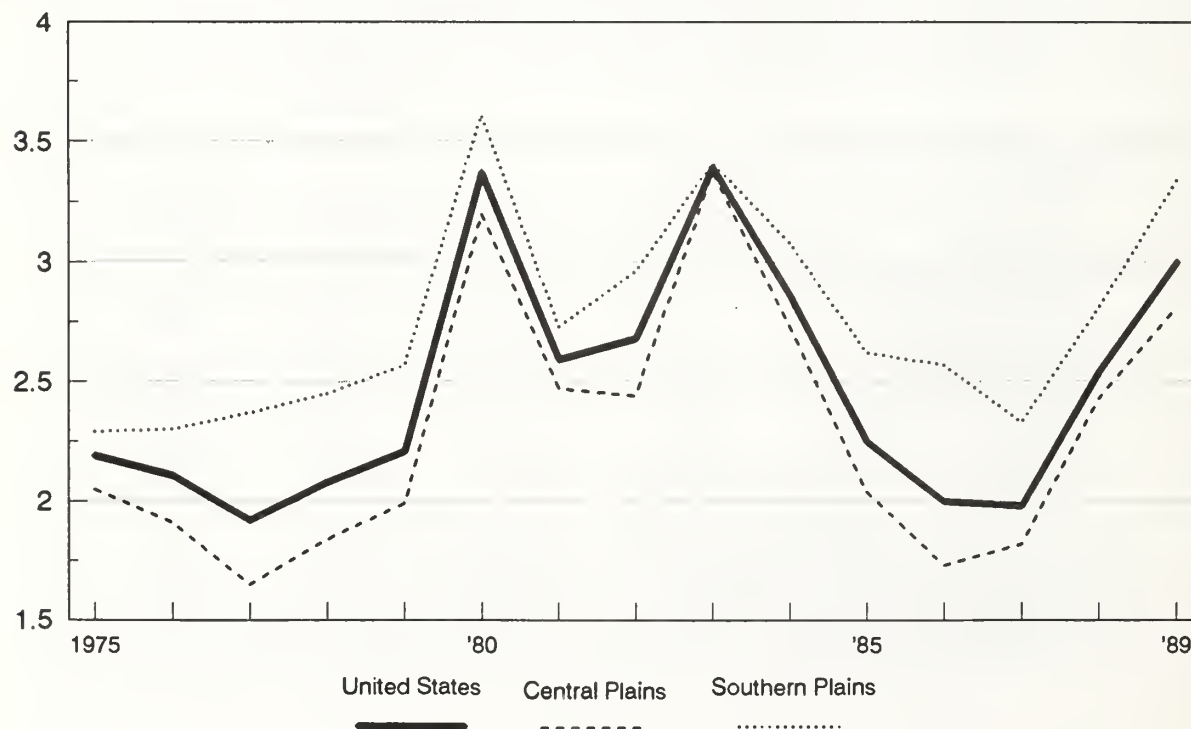


Table 6A--U.S. grain sorghum production cash costs
and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Grain sorghum	96.18	141.59	104.26
Total, gross value of production	96.18	141.59	104.26
Cash expenses:			
Seed	4.74	3.59	3.87
Fertilizer	15.33	17.19	19.21
Chemicals	9.87	10.22	10.34
Custom operations	3.96	3.88	4.04
Fuel, lube, and electricity	10.62	10.47	11.67
Repairs	7.72	7.95	8.92
Hired labor	2.47	2.49	2.77
Purchased irrigation water	.11	.10	.13
Drying	.61	.54	.46
Technical services	.06	.07	.06
Total, variable cash expenses	55.49	56.50	61.47
General farm overhead	6.83	9.40	8.61
Taxes and insurance	8.32	8.72	8.75
Interest on operating loans	4.39	5.20	5.76
Interest on real estate	6.93	7.79	7.19
Total, fixed cash expenses	26.47	31.11	30.31
Total, cash expenses	81.96	87.61	91.78
Gross value of production less cash expenses	14.22	53.98	12.48
Harvest-period price (dollars per bushel)	1.40	2.36	2.04
Yield (bushels per planted acre)	68.62	60.07	51.03

Table 6B--U.S. grain sorghum production economic costs
and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Grain sorghum	96.18	141.59	104.26
Total, gross value of production	96.18	141.59	104.26
Economic (full-ownership) costs:			
Variable cash expenses	55.49	56.50	61.47
General farm overhead	6.83	9.40	8.61
Taxes and insurance	8.32	8.56	8.75
Capital replacement	23.13	24.46	26.77
Operating capital ^{2/}	1.47	1.73	2.19
Other nonland capital ^{3/}	4.18	5.10	6.11
Land ^{4/}	26.47	37.20	28.04
Unpaid labor	9.88	9.98	11.08
Total, economic (full-ownership) costs	135.77	153.09	153.02
Residual returns to management and risk ^{5/}	-39.59	-11.10	-48.76
Harvest-period price (dollars per bushel)	1.40	2.36	2.04
Yield (bushels per planted acre)	68.62	60.07	51.03

See footnotes after Table 25B.

Table 7A--Grain sorghum production cash costs and returns per planted acre,
Central Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Grain sorghum	98.65	139.05	105.42
Total, gross value of production	98.65	139.05	105.42
Cash expenses:			
Seed	3.78	3.39	3.69
Fertilizer	15.71	17.46	19.31
Chemicals	11.67	11.94	12.48
Custom operations	2.95	2.95	3.02
Fuel, lube, and electricity	8.29	7.98	8.68
Repairs	7.25	7.33	8.18
Hired labor	1.96	2.03	2.25
Drying	.82	.69	.64
Technical services	.09	.09	.10
Total, variable cash expenses	52.52	53.86	58.35
General farm overhead	7.30	9.58	8.92
Taxes and insurance	9.31	9.60	10.06
Interest on operating loans	3.98	4.79	5.87
Interest on real estate	8.15	8.73	8.42
Total, fixed cash expenses	28.74	32.70	33.27
Total, cash expenses	81.26	86.56	91.62
Gross value of production less cash expenses	17.39	52.49	13.80
Harvest-period price (dollars per bushel)	1.36	2.29	1.99
Yield (bushels per planted acre)	72.69	60.68	53.00

Table 7B--Grain sorghum production economic costs and returns per planted acre,
Central Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Grain sorghum	98.65	139.05	105.42
Total, gross value of production	98.65	139.05	105.42
Economic (full-ownership) costs:			
Variable cash expenses	52.52	53.86	58.35
General farm overhead	7.30	9.58	8.92
Taxes and insurance	9.31	9.60	10.06
Capital replacement	22.70	22.98	26.28
Operating capital ^{2/}	1.43	1.71	2.16
Other nonland capital ^{3/}	4.25	4.96	6.19
Land ^{4/}	27.14	36.67	27.70
Unpaid labor	7.84	8.14	9.01
Total, economic (full-ownership) costs	132.49	147.50	148.67
Residual returns to management and risk ^{5/}	-33.84	-8.45	-43.25
Harvest-period price (dollars per bushel)	1.36	2.29	1.99
Yield (bushels per planted acre)	72.69	60.68	53.00

See footnotes after Table 25B.

Table 8A--Grain sorghum production cash costs and returns per planted acre,
Southern Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Grain sorghum	91.48	147.03	102.41
Total, gross value of production	91.48	147.03	102.41
Cash expenses:			
Seed	6.58	4.00	4.15
Fertilizer	14.62	16.60	19.05
Chemicals	6.45	6.54	6.92
Custom operations	5.85	5.84	5.65
Fuel, lube, and electricity	15.06	15.80	16.46
Repairs	8.61	9.29	10.09
Hired labor	3.44	3.48	3.60
Purchased irrigation water	.34	.34	.34
Drying	.23	.22	.18
Technical services	.02	.02	.01
Total, variable cash expenses	61.20	62.13	66.45
General farm overhead	5.92	9.02	8.11
Taxes and insurance	6.43	6.88	6.65
Interest on operating loans	5.16	6.06	5.57
Interest on real estate	4.61	5.77	5.22
Total, fixed cash expenses	22.12	27.73	25.55
Total, cash expenses	83.32	89.86	92.00
Gross value of production less cash expenses	8.16	57.17	10.41
Harvest-period price (dollars per bushel)	1.50	2.50	2.14
Yield (bushels per planted acre)	60.87	58.76	47.86

Table 8B--Grain sorghum production economic costs and returns per planted acre,
Southern Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Grain sorghum	91.48	147.03	102.41
Total, gross value of production	91.48	147.03	102.41
Economic (full-ownership) costs:			
Variable cash expenses	61.20	62.13	66.45
General farm overhead	5.92	9.02	8.11
Taxes and insurance	6.43	6.88	6.65
Capital replacement	23.95	27.61	27.56
Operating capital ^{2/}	1.54	1.77	2.24
Other nonland capital ^{3/}	4.05	5.38	5.97
Land ^{4/}	25.19	38.34	28.58
Unpaid labor	13.78	13.91	14.40
Total, economic (full-ownership) costs	142.06	164.99	159.96
Residual returns to management and risk ^{5/}	-50.58	-17.96	-57.55
Harvest-period price (dollars per bushel)	1.50	2.50	2.14
Yield (bushels per planted acre)	60.87	58.76	47.86

See footnotes after Table 25B.

Figure 19

Oats production costs per planted acre, 1989

Dollars

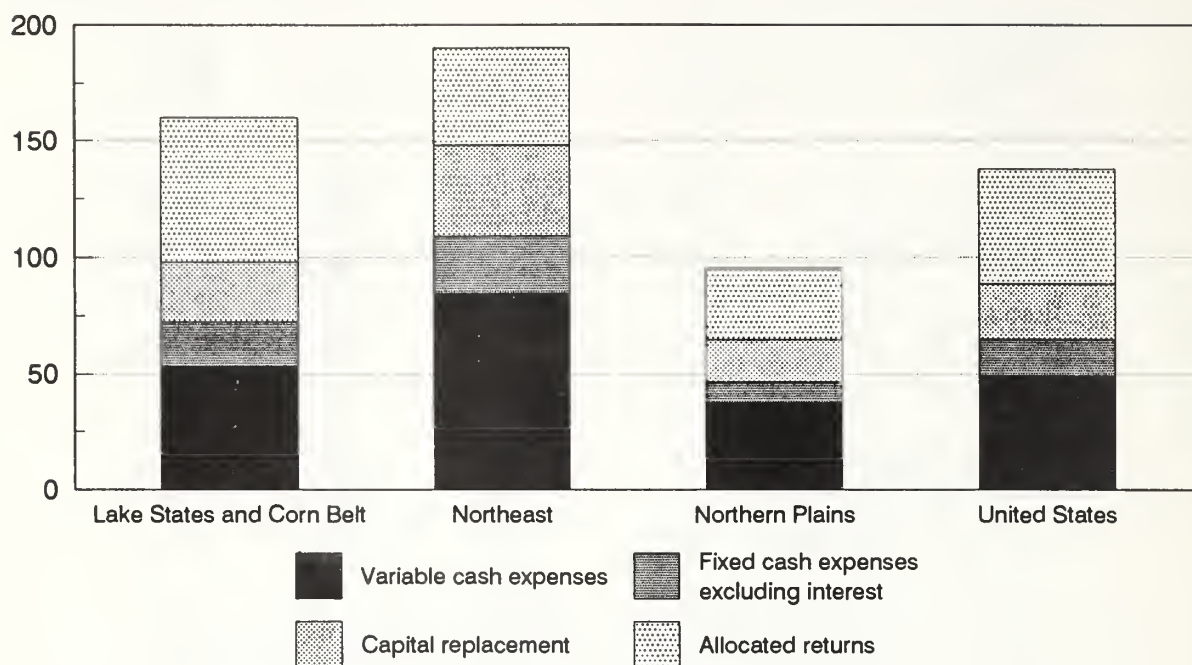


Figure 20

Oats production costs per bushel harvested, 1975-89

Dollars

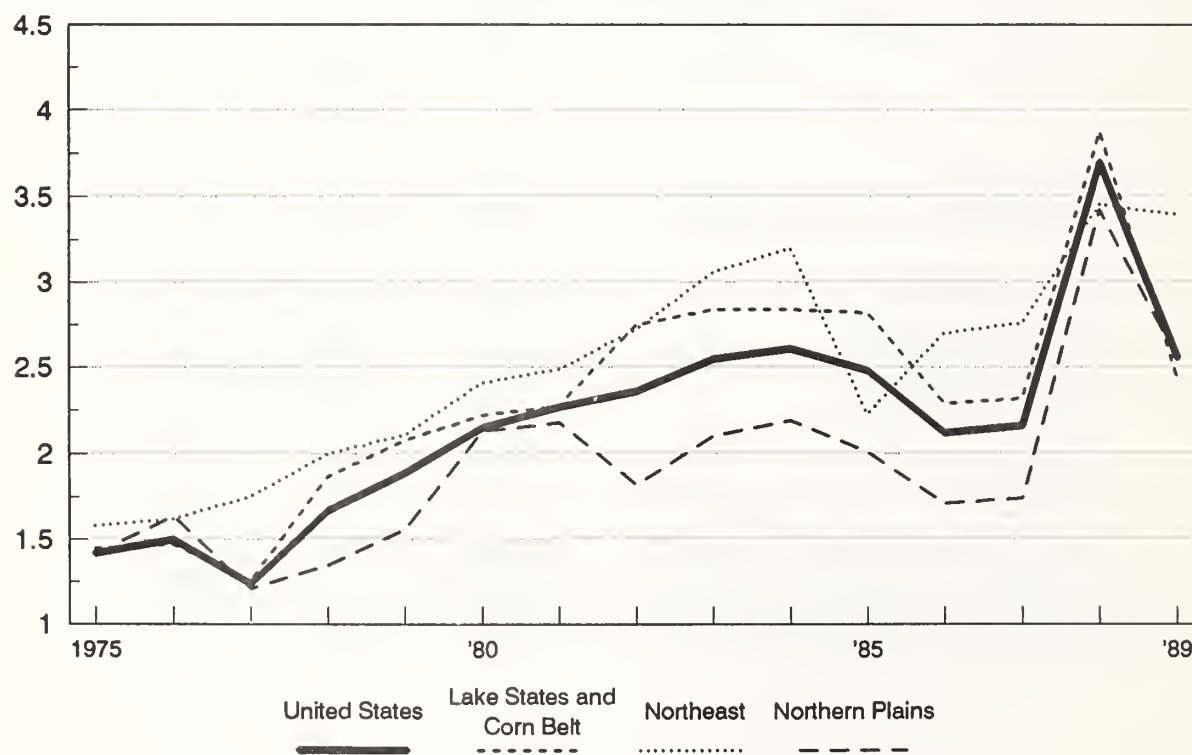


Table 9A--U.S. oats production cash costs and returns per planted acre, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	70.54	94.38	81.21
Oats straw	10.73	17.74	15.48
Total, gross value of production	81.27	112.12	96.69
Cash expenses:			
Seed	6.77	8.38	9.55
Fertilizer	11.39	13.27	13.74
Lime and gypsum	1.55	1.59	1.44
Chemicals	1.01	1.06	1.10
Custom operations	4.39	4.55	4.64
Fuel, lube, and electricity	5.60	5.66	6.24
Repairs	5.28	5.63	6.24
Hired labor	5.67	5.55	6.34
Total, variable cash expenses	41.66	45.69	49.29
General farm overhead	3.32	3.33	3.13
Taxes and insurance	12.35	12.72	12.71
Interest on operating loans	2.16	1.07	1.14
Interest on real estate	2.14	2.28	2.29
Total, fixed cash expenses	19.97	19.40	19.27
Total, cash expenses	61.63	65.09	68.56
Gross value of production less cash expenses	19.64	47.03	28.13
Harvest-period price (dollars per bushel)	1.31	2.66	1.51
Yield (bushels per planted acre)	53.95	35.54	53.76

Table 9B--U.S. oats production economic costs and returns per planted acre, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	70.54	94.38	81.21
Oats straw	10.73	17.74	15.48
Total, gross value of production	81.27	112.12	96.69
Economic (full-ownership) costs:			
Variable cash expenses	41.66	45.69	49.29
General farm overhead	3.32	3.33	3.13
Taxes and insurance	12.35	12.72	12.71
Capital replacement	19.65	21.12	23.49
Operating capital 2/	.66	.83	1.03
Other nonland capital 3/	3.72	4.66	5.71
Land 4/	20.99	28.24	26.04
Unpaid labor	14.23	14.92	16.32
Total, economic (full-ownership) costs	116.58	131.51	137.72
Residual returns to management and risk 5/	-35.31	-19.39	-41.03
Harvest-period price (dollars per bushel)	1.31	2.66	1.51
Yield (bushels per planted acre)	53.95	35.54	53.76

See footnotes at end of Table 25B.

Table 10A--Oats production cash costs and returns per planted acre,
Lake States and Corn Belt, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	75.93	106.26	100.25
Oats straw	13.37	22.89	20.30
Total, gross value of production	89.30	129.15	120.55
Cash expenses:			
Seed	7.55	9.14	10.72
Fertilizer	13.16	14.97	15.53
Lime and gypsum	1.85	1.80	1.65
Chemicals	.88	.91	.94
Custom operations	5.67	5.60	6.17
Fuel, lube, and electricity	6.38	6.25	7.02
Repairs	5.05	5.29	5.95
Hired labor	4.98	5.00	5.09
Total, variable cash expenses	45.52	48.96	53.07
General farm overhead	3.22	3.24	3.14
Taxes and insurance	16.18	16.02	16.37
Interest on operating loans	1.09	1.09	1.16
Interest on real estate	2.57	2.57	2.58
Total, fixed cash expenses	23.06	22.92	23.25
Total, cash expenses	68.58	71.88	76.32
Gross value of production less cash expenses	20.72	57.27	44.23
Harvest-period price (dollars per bushel)	1.31	2.73	1.53
Yield (bushels per planted acre)	58.05	38.86	65.40

Table 10B--Oats production economic costs and returns per planted acre,
Lake States and Corn Belt, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	75.93	106.26	100.25
Oats straw	13.37	22.89	20.30
Total, gross value of production	89.30	129.15	120.55
Economic (full-ownership) costs:			
Variable cash expenses	45.52	48.96	53.07
General farm overhead	3.22	3.24	3.14
Taxes and insurance	16.18	16.02	16.37
Capital replacement	21.24	22.50	25.30
Operating capital 2/	.72	.88	1.09
Other nonland capital 3/	4.13	5.11	6.31
Land 4/	24.42	34.40	33.40
Unpaid labor	19.15	19.78	21.27
Total, economic (full-ownership) costs	134.58	150.89	159.95
Residual returns to management and risk 5/	-45.28	-21.74	-39.40
Harvest-period price (dollars per bushel)	1.31	2.73	1.53
Yield (bushels per planted acre)	58.05	38.86	65.40

See footnotes at end of Table 25B.

Table 11A--Oats production cash costs and returns per planted acre,
Northeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	73.91	115.79	79.30
Oats straw	33.10	37.16	34.92
Total, gross value of production	107.01	152.95	114.22
Cash expenses:			
Seed	11.04	12.95	13.54
Fertilizer	23.76	28.10	30.19
Lime and gypsum	7.84	6.86	7.56
Chemicals	2.52	2.46	2.61
Custom operations	4.44	4.13	4.53
Fuel, lube, and electricity	8.79	8.92	10.10
Repairs	9.67	10.34	11.46
Hired labor	3.87	4.45	4.64
Total, variable cash expenses	71.93	78.21	84.63
General farm overhead	8.52	8.55	8.30
Taxes and insurance	16.01	15.66	16.04
Interest on operating loans	1.01	1.00	1.07
Interest on real estate	3.17	3.39	3.40
Total, fixed cash expenses	28.71	28.60	28.81
Total, cash expenses	100.64	106.81	113.44
Gross value of production less cash expenses	6.37	46.14	.78
Harvest-period price (dollars per bushel)	1.27	2.28	1.42
Yield (bushels per planted acre)	58.23	50.72	55.88

Table 11B--Oats production economic costs and returns per planted acre,
Northeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	73.91	115.79	79.30
Oats straw	33.10	37.16	34.92
Total, gross value of production	107.01	152.95	114.22
Economic (full-ownership) costs:			
Variable cash expenses	71.93	78.21	84.63
General farm overhead	8.52	8.55	8.30
Taxes and insurance	16.01	15.66	16.04
Capital replacement	32.69	34.33	39.02
Operating capital <u>2/</u>	1.31	1.69	2.08
Other nonland capital <u>3/</u>	5.76	7.05	8.72
Land <u>4/</u>	9.47	11.71	12.55
Unpaid labor	15.06	18.18	18.70
Total, economic (full-ownership) costs	160.75	175.38	190.04
Residual returns to management and risk <u>5/</u>	-53.74	-22.43	-75.82
Harvest-period price (dollars per bushel)	1.27	2.28	1.42
Yield (bushels per planted acre)	58.23	50.72	55.88

See footnotes at end of Table 25B.

Table 12A--Oats production cash costs and returns per planted acre,
Northern Plains, 1987-89

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	63.11	72.03	55.38
Oats straw	3.24	5.59	5.20
Total, gross value of production	66.35	77.62	60.58
Cash expenses:			
Seed	5.00	6.17	7.18
Fertilizer	6.86	7.22	8.18
Chemicals	.88	.95	1.03
Custom operations	2.75	3.14	2.57
Fuel, lube, and electricity	4.02	4.02	4.44
Repairs	4.76	4.98	5.64
Hired labor	6.87	6.61	8.39
Total, variable cash expenses	31.14	33.09	37.43
General farm overhead	2.19	2.19	2.13
Taxes and insurance	6.81	7.26	7.06
Interest on operating loans	1.07	1.06	1.13
Interest on real estate	1.49	1.59	1.60
Total, fixed cash expenses	11.56	12.10	11.92
Total, cash expenses	42.70	45.19	49.35
Gross value of production less cash expenses	23.65	32.43	11.23
Harvest-period price (dollars per bushel)	1.32	2.66	1.48
Yield (bushels per planted acre)	47.97	27.07	37.35

Table 12B--Oats production economic costs and returns per planted acre,
Northern Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Oats	63.11	72.03	55.38
Oats straw	3.24	5.59	5.20
Total, gross value of production	66.35	77.62	60.58
Economic (full-ownership) costs:			
Variable cash expenses	31.14	33.09	37.43
General farm overhead	2.19	2.19	2.13
Taxes and insurance	6.81	7.26	7.06
Capital replacement	15.21	15.92	18.07
Operating capital ^{2/}	.46	.56	.74
Other nonland capital ^{3/}	2.81	3.44	4.31
Land ^{4/}	18.80	23.36	18.46
Unpaid labor	6.06	7.10	6.96
Total, economic (full-ownership) costs	83.48	92.92	95.16
Residual returns to management and risk ^{5/}	-17.13	-15.30	-34.58
Harvest-period price (dollars per bushel)	1.32	2.66	1.48
Yield (bushels per planted acre)	47.97	27.07	37.35

See footnotes at end of Table 25B.

Figure 21

Barley production costs per planted acre, 1989

Dollars

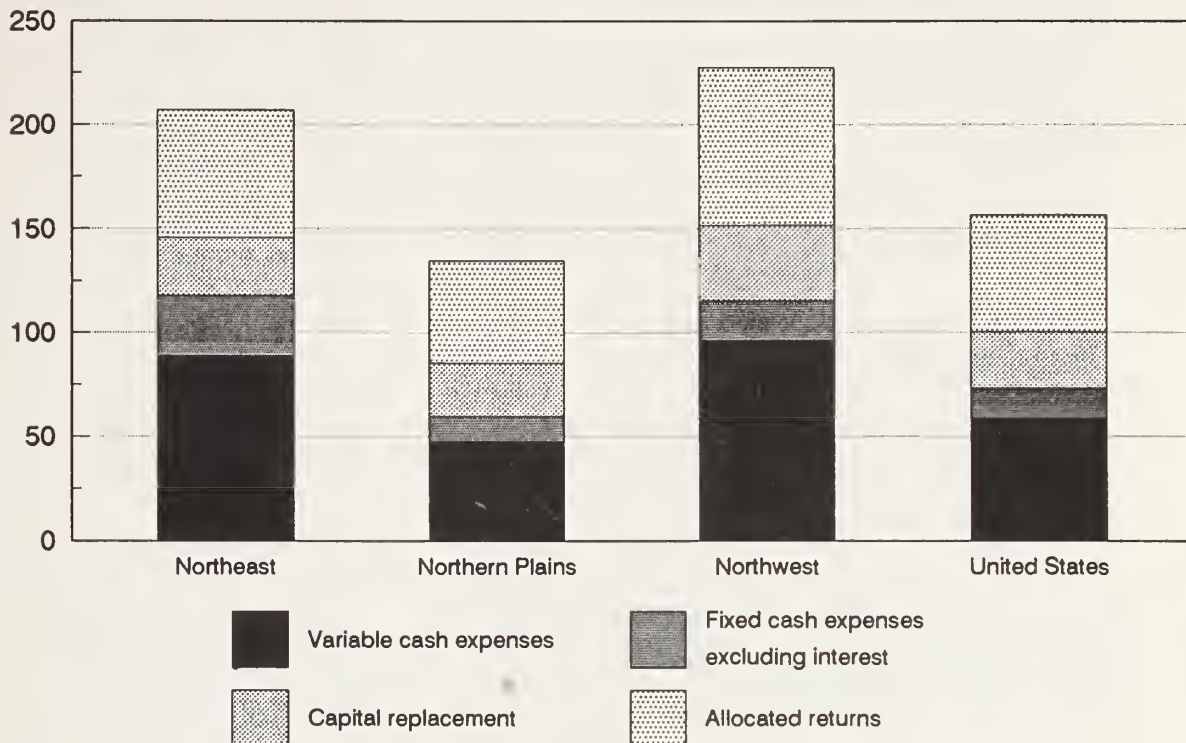


Figure 22

Barley production costs per bushel harvested, 1975-89

Dollars

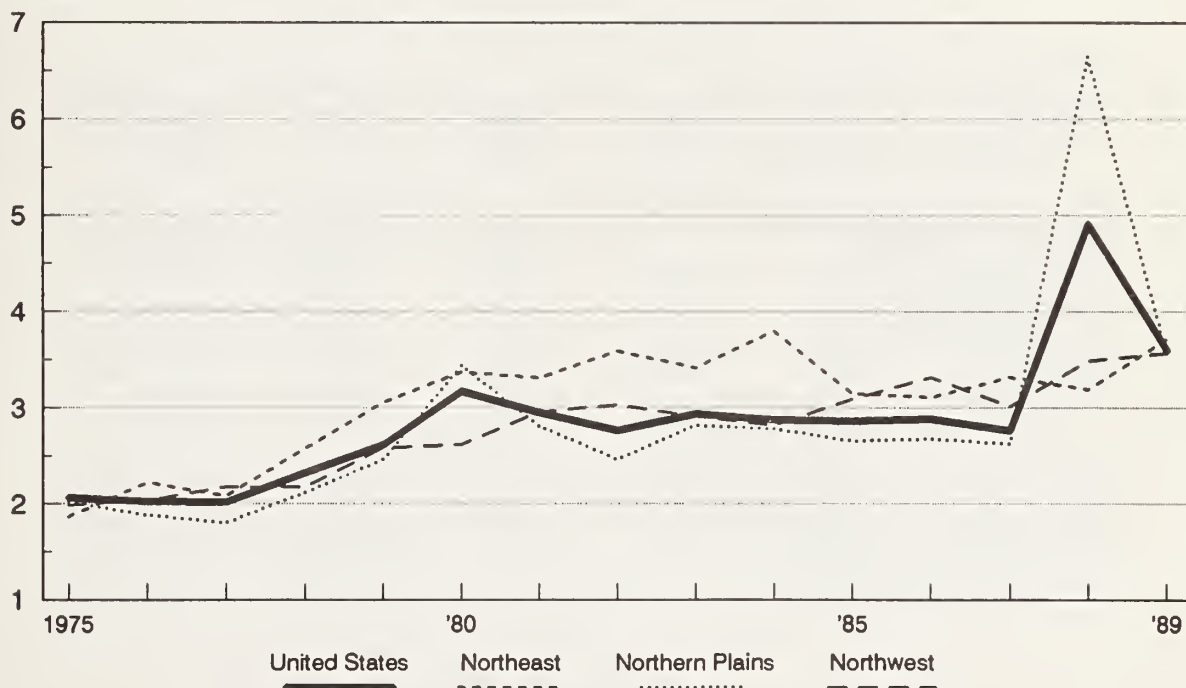


Table 13A--U.S. barley production cash costs and returns per planted acre, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	80.00	79.87	114.24
Barley straw	2.28	3.47	3.53
Total, gross value of production	82.28	83.34	117.77
Cash expenses:			
Seed	5.92	6.30	8.52
Fertilizer	13.00	14.75	15.57
Lime and gypsum	.12	.13	.15
Chemicals	6.17	6.31	6.50
Custom operations	2.43	1.90	2.56
Fuel, lube, and electricity	7.18	7.05	8.12
Repairs	7.06	6.89	8.16
Hired labor	5.85	6.14	6.68
Purchased irrigation water	2.34	2.33	2.40
Technical services	.23	.24	.24
Total, variable cash expenses	50.30	52.04	58.90
General farm overhead	5.98	6.45	6.20
Taxes and insurance	7.38	7.01	8.09
Interest on operating loans	3.78	3.39	3.54
Interest on real estate	6.54	6.12	6.21
Total, fixed cash expenses	23.68	22.97	24.04
Total, cash expenses	73.98	75.01	82.94
Gross value of production less cash expenses	8.30	8.33	34.83
Harvest-period price (dollars per bushel)	1.69	2.90	2.63
Yield (bushels per planted acre)	47.42	27.54	43.48

Table 13B--U.S. barley production economic costs and returns per planted acre, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	80.00	79.87	114.24
Barley straw	2.28	3.47	3.53
Total, gross value of production	82.28	83.34	117.77
Economic (full-ownership) costs:			
Variable cash expenses	50.30	52.04	58.90
General farm overhead	5.98	6.45	6.20
Taxes and insurance	7.38	7.01	8.09
Capital replacement	23.61	22.81	27.37
Operating capital 2/	.84	1.03	1.33
Other nonland capital 3/	4.26	4.68	6.25
Land 4/	28.38	30.18	36.14
Unpaid labor	10.49	11.10	12.16
Total, economic (full-ownership) costs	131.24	135.30	156.44
Residual returns to management and risk 5/	-48.96	-51.96	-38.67
Harvest-period price (dollars per bushel)	1.69	2.90	2.63
Yield (bushels per planted acre)	47.42	27.54	43.48

See footnotes after Table 25B.

Table 14A--Barley production cash costs and returns per planted acre,
Northeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	80.51	156.09	112.55
Barley straw	53.60	63.71	55.93
Total, gross value of production	134.11	219.80	168.48
Cash expenses:			
Seed	15.79	15.35	17.41
Fertilizer	20.57	24.97	27.34
Lime and gypsum	4.86	4.46	4.84
Chemicals	2.66	2.70	2.83
Custom operations	6.93	7.96	7.87
Fuel, lube, and electricity	6.65	7.00	7.83
Repairs	7.34	8.02	8.32
Hired labor	9.72	11.62	12.09
Total, variable cash expenses	74.52	82.08	88.53
General farm overhead	5.52	5.85	5.67
Taxes and insurance	20.71	22.16	23.58
Interest on operating loans	1.72	1.52	1.60
Interest on real estate	2.73	2.53	2.57
Total, fixed cash expenses	30.68	32.06	33.42
Total, cash expenses	105.20	114.14	121.95
Gross value of production less cash expenses	28.91	105.66	46.53
Harvest-period price (dollars per bushel)	1.53	2.58	2.02
Yield (bushels per planted acre)	52.62	60.50	55.72

Table 14B--Barley production economic costs and returns per planted acre,
Northeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	80.51	156.09	112.55
Barley straw	53.60	63.71	55.93
Total, gross value of production	134.11	219.80	168.48
Economic (full-ownership) costs:			
Variable cash expenses	74.52	82.08	88.53
General farm overhead	5.52	5.85	5.67
Taxes and insurance	20.71	22.16	23.58
Capital replacement	24.50	26.10	27.90
Operating capital <u>2/</u>	2.38	3.01	3.79
Other nonland capital <u>3/</u>	4.64	5.82	6.72
Land <u>4/</u>	29.63	33.39	34.86
Unpaid labor	12.92	14.58	16.07
Total, economic (full-ownership) costs	174.82	192.99	207.12
Residual returns to management and risk <u>5/</u>	-40.71	26.81	-38.64
Harvest-period price (dollars per bushel)	1.53	2.58	2.02
Yield (bushels per planted acre)	52.62	60.50	55.72

See footnotes after Table 25B.

Table 15A--Barley production cash costs and returns per planted acre,
Northern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	63.42	51.24	95.50
Barley straw	1.33	2.35	1.99
Total, gross value of production	64.75	53.59	97.49
Cash expenses:			
Seed	4.62	5.15	7.47
Fertilizer	12.26	14.29	14.57
Chemicals	5.45	5.56	5.70
Custom operations	1.74	.99	1.67
Fuel, lube, and electricity	4.84	4.43	5.24
Repairs	5.88	5.31	6.82
Hired labor	4.23	4.35	4.74
Purchased irrigation water	1.24	1.09	1.10
Technical services	.27	.27	.28
Total, variable cash expenses	40.53	41.44	47.59
General farm overhead	5.14	5.51	5.24
Taxes and insurance	6.54	5.96	7.12
Interest on operating loans	3.44	3.07	3.17
Interest on real estate	5.97	5.57	5.62
Total, fixed cash expenses	21.09	20.11	21.15
Total, cash expenses	61.62	61.55	68.74
Gross value of production less cash expenses	3.13	-7.96	28.75
Harvest-period price (dollars per bushel)	1.47	3.04	2.54
Yield (bushels per planted acre)	43.05	16.87	37.57

Table 15B--Barley production economic costs and returns per planted acre,
Northern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	63.42	51.24	95.50
Barley straw	1.33	2.35	1.99
Total, gross value of production	64.75	53.59	97.49
Economic (full-ownership) costs:			
Variable cash expenses	40.53	41.44	47.59
General farm overhead	5.14	5.51	5.24
Taxes and insurance	6.54	5.96	7.12
Capital replacement	22.02	20.19	25.63
Operating capital 2/	.59	.72	.94
Other nonland capital 3/	3.99	4.12	5.85
Land 4/	24.32	23.25	30.28
Unpaid labor	10.24	10.95	12.04
Total, economic (full-ownership) costs	113.37	112.14	134.69
Residual returns to management and risk 5/	-48.62	-58.55	-37.20
Harvest-period price (dollars per bushel)	1.47	3.04	2.54
Yield (bushels per planted acre)	43.05	16.87	37.57

See footnotes after Table 25B.

Table 16A--Barley production cash costs and returns per planted acre,
Northwest, 1987-89

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	138.57	161.33	173.62
Barley straw	3.53	4.84	5.48
Total, gross value of production	142.10	166.17	179.10
Cash expenses:			
Seed	9.43	9.20	11.07
Fertilizer	16.31	16.88	19.29
Lime and gypsum	.47	.50	.53
Chemicals	8.74	8.84	9.23
Custom operations	4.12	3.98	4.68
Fuel, lube, and electricity	15.80	16.13	18.17
Repairs	11.84	12.65	13.33
Hired labor	11.10	11.47	12.65
Purchased irrigation water	6.01	6.35	6.62
Technical services	.14	.15	.15
Total, variable cash expenses	83.96	86.15	95.72
General farm overhead	9.14	9.83	9.63
Taxes and insurance	9.22	9.28	9.89
Interest on operating loans	5.45	4.88	5.21
Interest on real estate	8.43	7.93	8.16
Total, fixed cash expenses	32.24	31.92	32.89
Total, cash expenses	116.20	118.07	128.61
Gross value of production less cash expenses	25.90	48.10	50.49
Harvest-period price (dollars per bushel)	2.16	2.70	2.73
Yield (bushels per planted acre)	64.21	59.66	63.68

Table 16B--Barley production economic costs and returns per planted acre,
Northwest, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Barley	138.57	161.33	173.62
Barley straw	3.53	4.84	5.48
Total, gross value of production	142.10	166.17	179.10
Economic (full-ownership) costs:			
Variable cash expenses	83.96	86.15	95.72
General farm overhead	9.14	9.83	9.63
Taxes and insurance	9.22	9.28	9.89
Capital replacement	31.69	33.70	36.12
Operating capital 2/	1.60	1.89	2.42
Other nonland capital 3/	5.64	6.97	8.21
Land 4/	41.44	49.55	53.22
Unpaid labor	10.95	11.13	12.12
Total, economic (full-ownership) costs	193.64	208.50	227.33
Residual returns to management and risk 5/	-51.54	-42.33	-48.23
Harvest-period price (dollars per bushel)	2.16	2.70	2.73
Yield (bushels per planted acre)	64.21	59.66	63.68

See footnotes after Table 25B.

Figure 23A

Wheat production costs per planted acre, Plains and North-Central, 1989

Dollars

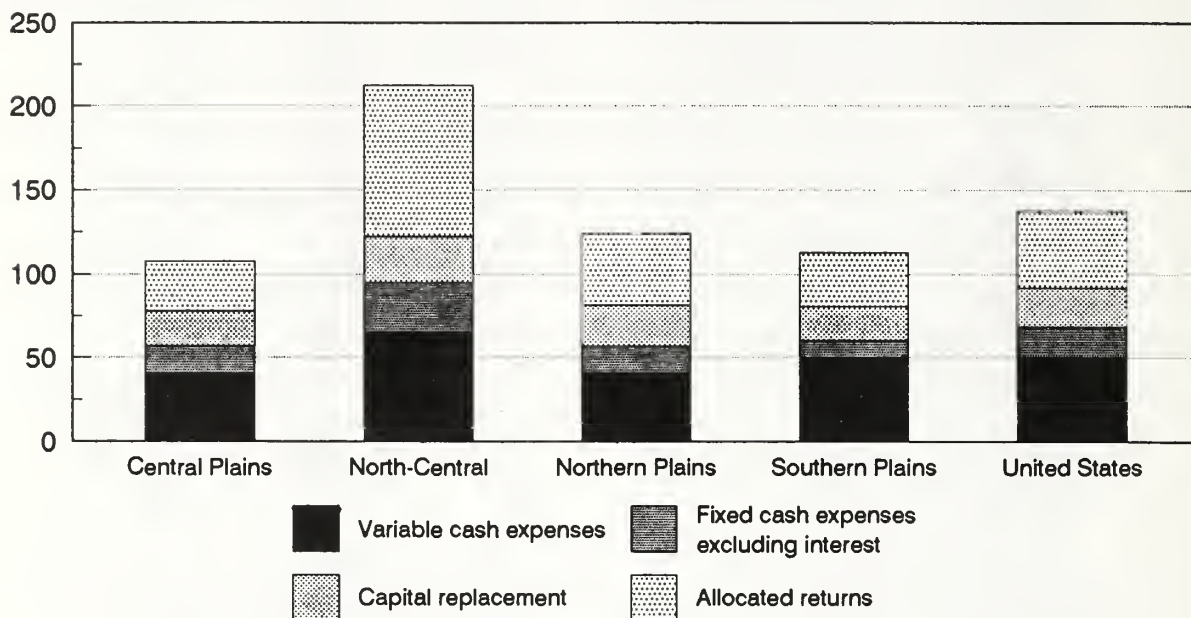


Figure 24A

Wheat production costs per bushel harvested, Plains and North-Central, 1975-89

Dollars

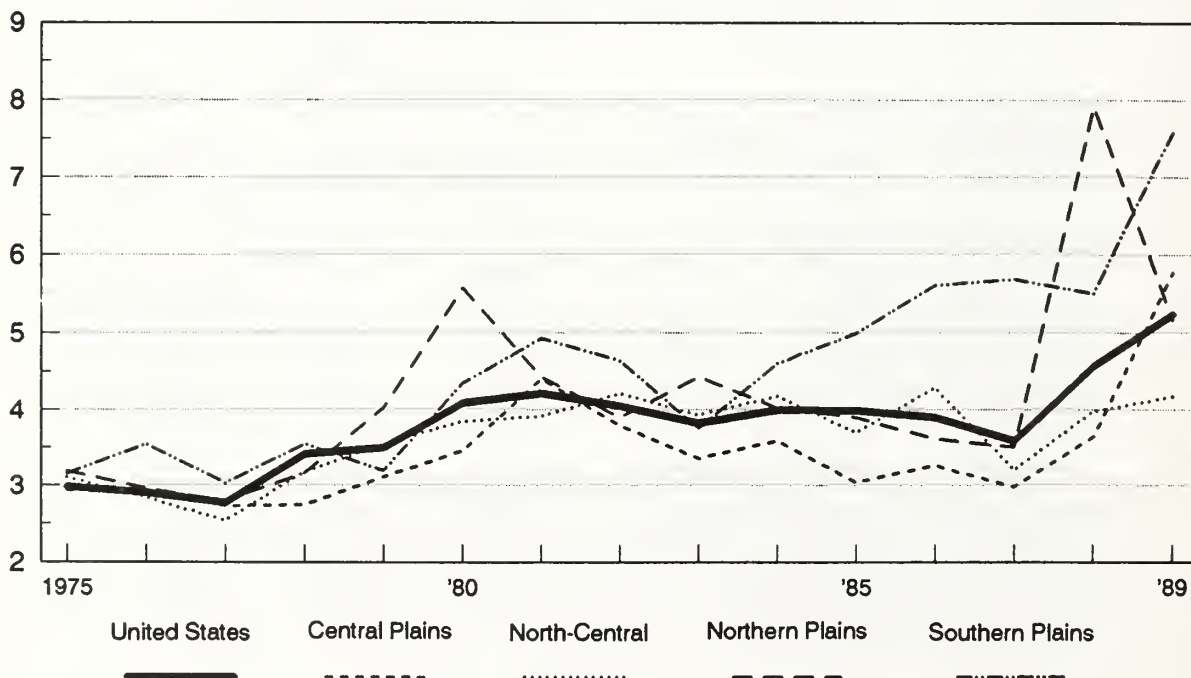


Figure 23B

**Wheat production costs per planted acre,
Northeast, Northwest, Southeast, and Southwest, 1989**

Dollars

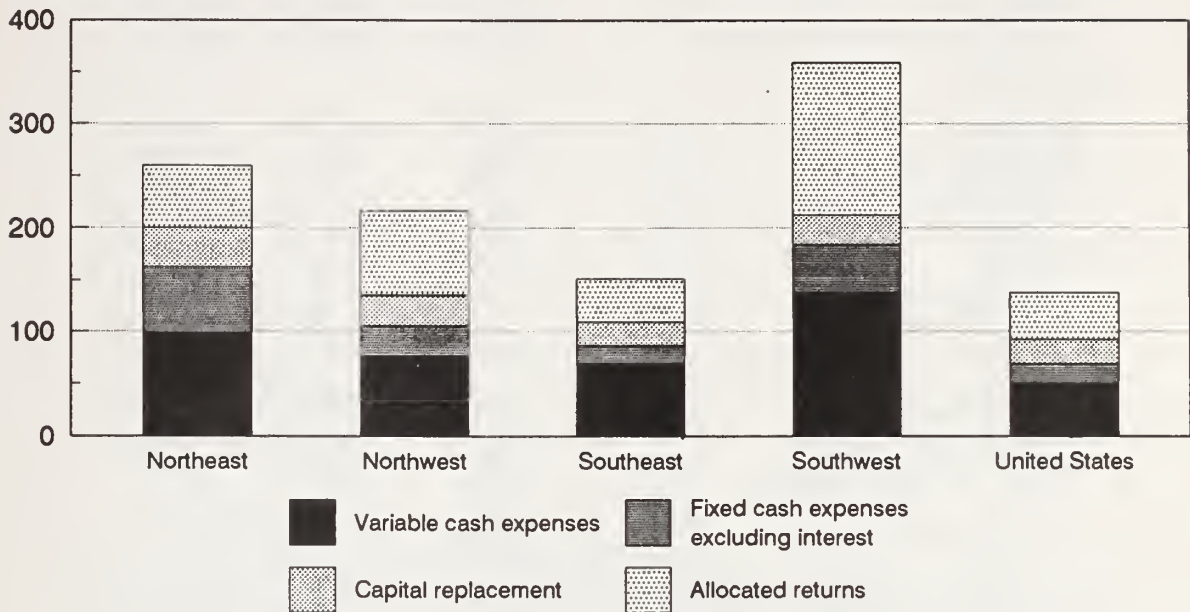


Figure 24B

**Wheat production costs per bushel harvested,
Northeast, Southeast, Northwest, and Southwest, 1975-89**

Dollars

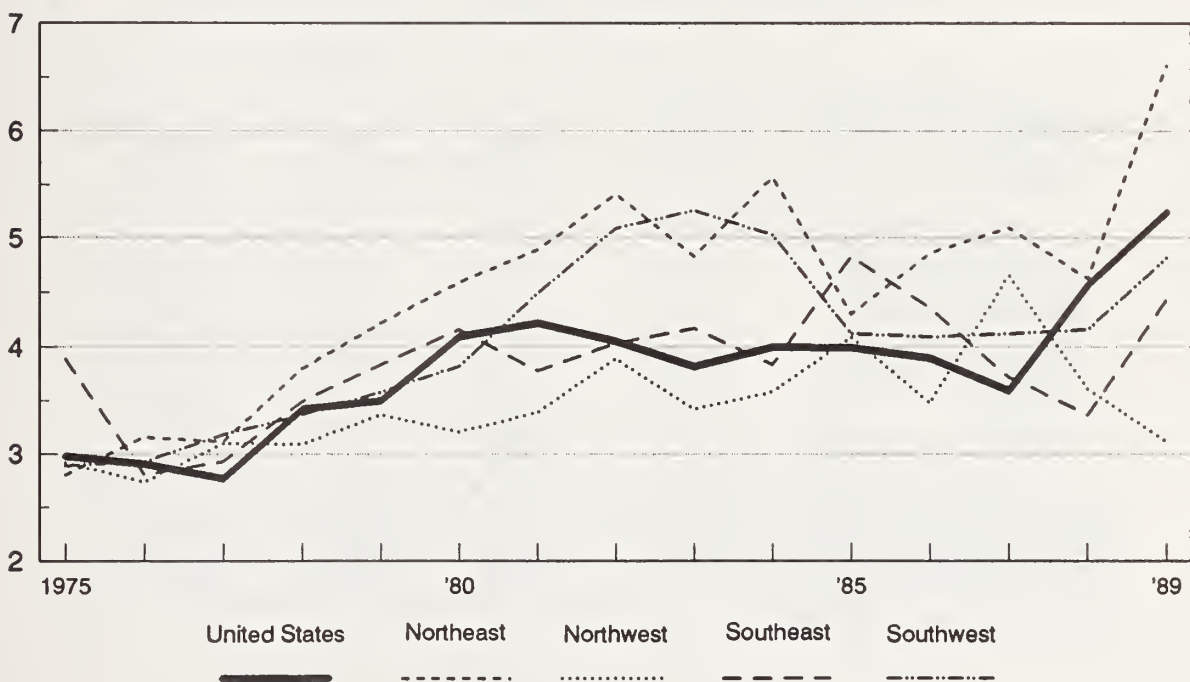


Table 17A--U.S. wheat production cash costs
and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	76.21	95.89	99.83
Wheat straw	2.18	3.78	3.45
Total, gross value of production	78.39	99.67	103.28
Cash expenses:			
Seed	6.62	6.69	8.12
Fertilizer	11.75	14.09	15.56
Lime and gypsum	1.32	1.25	1.30
Chemicals	3.82	3.82	4.00
Custom operations	3.95	3.73	3.53
Fuel, lube, and electricity	7.56	7.37	7.99
Repairs	6.32	6.41	7.09
Hired labor	2.53	2.59	2.76
Purchased irrigation water	.20	.20	.22
Technical services	.17	.16	.16
Total, variable cash expenses	44.24	46.31	50.73
General farm overhead	6.01	6.89	9.02
Taxes and insurance	8.11	8.19	8.91
Interest on operating loans	3.36	3.50	4.83
Interest on real estate	6.73	6.07	7.66
Total, fixed cash expenses	24.21	24.65	30.42
Total, cash expenses	68.45	70.96	81.15
Gross value of production less cash expenses	9.94	28.71	22.13
Harvest-period price (dollars per bushel)	2.39	3.50	3.81
Yield (bushels per planted acre)	31.87	27.42	26.22

Table 17B--U.S. wheat production economic costs
and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	76.21	95.89	99.83
Wheat straw	2.18	3.78	3.45
Total, gross value of production	78.39	99.67	103.28
Economic (full-ownership) costs:			
Variable cash expenses	44.24	46.31	50.73
General farm overhead	6.01	6.89	9.02
Taxes and insurance	8.11	8.19	8.91
Capital replacement	20.33	20.67	23.48
Operating capital ^{2/}	1.46	1.78	2.28
Other nonland capital ^{3/}	3.69	4.33	5.36
Land ^{4/}	24.87	31.38	31.47
Unpaid labor	5.63	5.77	6.13
Total, economic (full-ownership) costs	114.34	125.32	137.38
Residual returns to management and risk ^{5/}	-35.95	-25.65	-34.10
Harvest-period price (dollars per bushel)	2.39	3.50	3.81
Yield (bushels per planted acre)	31.87	27.42	26.22

See footnotes after Table 25B.

Table 18A--Wheat production cash costs and returns per planted acre,
Central Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	76.85	103.71	72.19
Wheat straw	.59	.52	.77
Total, gross value of production	77.44	104.23	72.96
Cash expenses:			
Seed	5.71	5.59	6.67
Fertilizer	6.73	7.58	8.45
Lime and gypsum	4.70	4.69	4.82
Chemicals	1.05	1.06	1.13
Custom operations	4.65	4.87	3.43
Fuel, lube, and electricity	5.98	5.87	6.23
Repairs	6.32	6.55	6.81
Hired labor	2.42	2.59	2.67
Technical services	.06	.06	.06
Total, variable cash expenses	37.62	38.86	40.27
General farm overhead	6.10	7.52	6.42
Taxes and insurance	9.39	9.96	10.35
Interest on operating loans	3.30	3.88	4.07
Interest on real estate	7.36	6.85	6.23
Total, fixed cash expenses	26.15	28.21	27.07
Total, cash expenses	63.77	67.07	67.34
Gross value of production less cash expenses	13.67	37.16	5.62
Harvest-period price (dollars per bushel)	2.26	3.31	3.86
Yield (bushels per planted acre)	34.06	31.33	18.70

Table 18B--Wheat production economic costs and returns per planted acre,
Central Plains, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	76.85	103.71	72.19
Wheat straw	.59	.52	.77
Total, gross value of production	77.44	104.23	72.96
Economic (full-ownership) costs:			
Variable cash expenses	37.62	38.86	40.27
General farm overhead	6.10	7.52	6.42
Taxes and insurance	9.39	9.96	10.35
Capital replacement	19.19	20.08	21.01
Operating capital ^{2/}	1.44	1.71	2.20
Other nonland capital ^{3/}	3.63	4.39	4.96
Land ^{4/}	18.70	25.60	16.68
Unpaid labor	5.39	5.77	5.95
Total, economic (full-ownership) costs	101.46	113.89	107.84
Residual returns to management and risk ^{5/}	-24.02	-9.66	-34.88
Harvest-period price (dollars per bushel)	2.26	3.31	3.86
Yield (bushels per planted acre)	34.06	31.33	18.70

See footnotes after Table 25B.

Table 19A--Wheat production cash costs and returns per planted acre,
North-Central, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	113.55	160.21	192.03
Wheat straw	16.75	28.59	22.17
Total, gross value of production	130.30	188.80	214.20
Cash expenses:			
Seed	10.40	10.59	12.68
Fertilizer	23.74	28.55	30.51
Lime and gypsum	.35	.32	.29
Chemicals	1.46	1.39	1.45
Custom operations	1.83	1.91	2.13
Fuel, lube, and electricity	6.54	6.38	7.57
Repairs	5.41	5.93	6.68
Hired labor	3.39	3.61	3.79
Technical services	.02	.04	.04
Miscellaneous	.02	0	0
Total, variable cash expenses	53.15	58.72	65.14
General farm overhead	7.78	11.33	16.39
Taxes and insurance	12.74	12.49	13.51
Interest on operating loans	4.52	5.40	7.90
Interest on real estate	9.79	13.25	16.07
Total, fixed cash expenses	34.83	42.47	53.87
Total, cash expenses	87.98	101.19	119.01
Gross value of production less cash expenses	42.32	87.61	95.19
Harvest-period price (dollars per bushel)	2.37	3.42	3.77
Yield (bushels per planted acre)	47.96	46.86	50.94

Table 19B--Wheat production economic costs and returns per planted acre,
North-Central, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	113.55	160.21	192.03
Wheat straw	16.75	28.59	22.17
Total, gross value of production	130.30	188.80	214.20
Economic (full-ownership) costs:			
Variable cash expenses	53.15	58.72	65.14
General farm overhead	7.78	11.33	16.39
Taxes and insurance	12.74	12.49	13.51
Capital replacement	21.96	24.14	27.35
Operating capital <u>2/</u>	2.29	2.86	3.64
Other nonland capital <u>3/</u>	4.10	5.22	6.47
Land <u>4/</u>	44.23	63.65	71.42
Unpaid labor	7.53	8.03	8.44
Total, economic (full-ownership) costs	153.79	186.44	212.36
Residual returns to management and risk <u>5/</u>	-23.49	2.36	1.84
Harvest-period price (dollars per bushel)	2.37	3.42	3.77
Yield (bushels per planted acre)	47.96	46.86	50.94

See footnotes after Table 25B.

Table 20A--Wheat production cash costs and returns per planted acre,
Northeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	104.50	184.32	134.18
Wheat straw	95.48	101.13	105.04
Total, gross value of production	199.98	285.45	239.22
Cash expenses:			
Seed	18.03	14.72	17.06
Fertilizer	26.73	32.88	37.04
Lime and gypsum	10.40	9.92	11.14
Chemicals	6.27	6.14	6.22
Custom operations	4.57	5.19	4.49
Fuel, lube, and electricity	8.04	8.61	9.39
Repairs	7.38	8.03	8.67
Hired labor	3.93	4.66	4.73
Total, variable cash expenses	85.35	90.15	98.74
General farm overhead	25.92	33.97	38.23
Taxes and insurance	22.70	24.12	25.65
Interest on operating loans	9.76	8.51	8.68
Interest on real estate	20.16	15.93	24.09
Total, fixed cash expenses	78.54	82.53	96.65
Total, cash expenses	163.89	172.68	195.39
Gross value of production less cash expenses	36.09	112.77	43.83
Harvest-period price (dollars per bushel)	2.50	3.56	3.42
Yield (bushels per planted acre)	41.84	51.71	39.27

Table 20B--Wheat production economic costs and returns per planted acre,
Northeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	104.50	184.32	134.18
Wheat straw	95.48	101.13	105.04
Total, gross value of production	199.98	285.45	239.22
Economic (full-ownership) costs:			
Variable cash expenses	85.35	90.15	98.74
General farm overhead	25.92	33.97	38.23
Taxes and insurance	22.70	24.12	25.65
Capital replacement	30.56	32.84	37.44
Operating capital ^{2/}	3.80	4.59	5.93
Other nonland capital ^{3/}	5.65	7.10	8.69
Land ^{4/}	30.53	36.69	34.54
Unpaid labor	8.76	10.36	10.53
Total, economic (full-ownership) costs	213.27	239.82	259.75
Residual returns to management and risk ^{5/}	-13.29	45.63	-20.53
Harvest-period price (dollars per bushel)	2.50	3.56	3.42
Yield (bushels per planted acre)	41.84	51.71	39.27

See footnotes after Table 25B.

Table 21A--Wheat production cash costs and returns per planted acre,
Northern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	75.46	47.99	88.38
Wheat straw	1.55	2.77	2.39
Total, gross value of production	77.01	50.76	90.77
Cash expenses:			
Seed	5.82	6.19	7.51
Fertilizer	9.58	10.87	11.39
Chemicals	4.29	4.35	4.57
Custom operations	3.57	2.21	3.30
Fuel, lube, and electricity	5.10	4.57	5.37
Repairs	5.83	5.27	6.45
Hired labor	1.93	1.77	2.10
Technical services	.04	.04	.04
Total, variable cash expenses	36.16	35.27	40.73
General farm overhead	6.24	3.83	8.62
Taxes and insurance	7.43	6.78	7.82
Interest on operating loans	3.37	2.00	4.78
Interest on real estate	7.69	3.82	8.26
Total, fixed cash expenses	24.73	16.43	29.48
Total, cash expenses	60.89	51.70	70.21
Gross value of production less cash expenses	16.12	-.94	20.56
Harvest-period price (dollars per bushel)	2.45	3.82	3.68
Yield (bushels per planted acre)	30.81	12.56	24.04

Table 21B--Wheat production economic costs and returns per planted acre,
Northern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	75.46	47.99	88.38
Wheat straw	1.55	2.77	2.39
Total, gross value of production	77.01	50.76	90.77
Economic (full-ownership) costs:			
Variable cash expenses	36.16	35.27	40.73
General farm overhead	6.24	3.83	8.62
Taxes and insurance	7.43	6.78	7.82
Capital replacement	21.79	20.06	24.67
Operating capital 2/	.61	.74	.95
Other nonland capital 3/	3.95	4.08	5.63
Land 4/	27.81	24.60	30.98
Unpaid labor	4.29	3.95	4.69
Total, economic (full-ownership) costs	108.28	99.31	124.09
Residual returns to management and risk 5/	-31.27	-48.55	-33.32
Harvest-period price (dollars per bushel)	2.45	3.82	3.68
Yield (bushels per planted acre)	30.81	12.56	24.04

See footnotes after Table 25B.

Table 22A--Wheat production cash costs and returns per planted acre,
Northwest, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	152.33	226.99	192.20
Wheat straw	.82	1.08	1.05
Total, gross value of production	153.15	228.07	193.25
Cash expenses:			
Seed	8.29	8.35	9.46
Fertilizer	19.20	19.66	22.69
Chemicals	9.84	9.95	10.25
Custom operations	2.80	2.98	2.96
Fuel, lube, and electricity	13.10	13.01	13.80
Repairs	10.90	11.30	11.50
Hired labor	3.78	3.76	3.71
Purchased irrigation water	1.90	1.91	1.81
Technical services	.34	.34	.37
Total, variable cash expenses	70.15	71.26	76.55
General farm overhead	13.31	17.38	17.81
Taxes and insurance	11.30	11.28	11.32
Interest on operating loans	5.86	7.87	7.74
Interest on real estate	13.36	13.72	12.72
Total, fixed cash expenses	43.83	50.25	49.59
Total, cash expenses	113.98	121.51	126.14
Gross value of production less cash expenses	39.17	106.56	67.11
Harvest-period price (dollars per bushel)	2.50	3.74	4.14
Yield (bushels per planted acre)	60.82	60.70	46.44

Table 22B--Wheat production economic costs and returns per planted acre,
Northwest, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	152.33	226.99	192.20
Wheat straw	.82	1.08	1.05
Total, gross value of production	153.15	228.07	193.25
Economic (full-ownership) costs:			
Variable cash expenses	70.15	71.26	76.55
General farm overhead	13.31	17.38	17.81
Taxes and insurance	11.30	11.28	11.32
Capital replacement	27.87	28.37	29.58
Operating capital <u>2/</u>	2.83	3.29	4.20
Other nonland capital <u>3/</u>	5.08	6.06	6.80
Land <u>4/</u>	50.65	73.16	62.04
Unpaid labor	8.41	8.38	8.27
Total, economic (full-ownership) costs	189.60	219.18	216.57
Residual returns to management and risk <u>5/</u>	-36.45	8.89	-23.32
Harvest-period price (dollars per bushel)	2.50	3.74	4.14
Yield (bushels per planted acre)	60.82	60.70	46.44

See footnotes after Table 25B.

Table 23A--Wheat production cash costs and returns per planted acre,
Southeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	79.56	143.09	124.60
Wheat straw	1.48	1.54	1.58
Total, gross value of production	81.04	144.63	126.18
Cash expenses:			
Seed	10.00	10.97	12.18
Fertilizer	26.84	32.82	34.83
Lime and gypsum	.93	.84	.94
Chemicals	1.70	1.75	1.90
Custom operations	3.10	4.28	3.19
Fuel, lube, and electricity	5.83	5.83	6.34
Repairs	5.96	6.65	6.97
Hired labor	2.71	2.89	2.92
Technical services	.01	.01	.01
Total, variable cash expenses	57.08	66.04	69.28
General farm overhead	4.63	8.08	9.11
Taxes and insurance	7.56	7.97	8.43
Interest on operating loans	3.11	3.48	4.17
Interest on real estate	4.22	6.46	5.40
Total, fixed cash expenses	19.52	25.99	27.11
Total, cash expenses	76.60	92.03	96.39
Gross value of production less cash expenses	4.44	52.60	29.79
Harvest-period price (dollars per bushel)	2.47	3.36	3.67
Yield (bushels per planted acre)	32.19	42.61	33.97

Table 23B--Wheat production economic costs and returns per planted acre,
Southeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	79.56	143.09	124.60
Wheat straw	1.48	1.54	1.58
Total, gross value of production	81.04	144.63	126.18
Economic (full-ownership) costs:			
Variable cash expenses	57.08	66.04	69.28
General farm overhead	4.63	8.08	9.11
Taxes and insurance	7.56	7.97	8.43
Capital replacement	18.97	20.76	22.77
Operating capital ^{2/}	2.05	2.65	3.31
Other nonland capital ^{3/}	3.16	4.08	4.80
Land ^{4/}	20.13	27.53	26.80
Unpaid labor	6.02	6.42	6.49
Total, economic (full-ownership) costs	119.60	143.53	150.99
Residual returns to management and risk ^{5/}	-38.56	1.10	-24.81
Harvest-period price (dollars per bushel)	2.47	3.36	3.67
Yield (bushels per planted acre)	32.19	42.61	33.97

See footnotes after Table 25B.

Table 24A--Wheat production cash costs and returns per planted acre,
Southern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	38.17	65.37	57.51
Wheat straw	.12	.11	.11
Total, gross value of production	38.29	65.48	57.62
Cash expenses:			
Seed	5.61	4.66	5.84
Fertilizer	10.25	11.95	13.57
Chemicals	5.43	5.44	5.74
Custom operations	3.89	4.33	3.73
Fuel, lube, and electricity	10.99	11.26	11.73
Repairs	5.86	6.30	6.74
Hired labor	2.55	2.62	2.63
Technical services	.45	.44	.45
Total, variable cash expenses	45.03	47.00	50.43
General farm overhead	2.55	4.12	4.71
Taxes and insurance	5.03	5.16	5.33
Interest on operating loans	2.17	2.84	3.27
Interest on real estate	2.14	2.76	3.08
Total, fixed cash expenses	11.89	14.88	16.39
Total, cash expenses	56.92	61.88	66.82
Gross value of production less cash expenses	-18.63	3.60	-9.20
Harvest-period price (dollars per bushel)	2.32	3.35	3.85
Yield (bushels per planted acre)	16.46	19.49	14.92

Table 24B--Wheat production economic costs and returns per planted acre,
Southern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	38.17	65.37	57.51
Wheat straw	.12	.11	.11
Total, gross value of production	38.29	65.48	57.62
Economic (full-ownership) costs:			
Variable cash expenses	45.03	47.00	50.43
General farm overhead	2.55	4.12	4.71
Taxes and insurance	5.03	5.16	5.33
Capital replacement	17.03	18.14	20.35
Operating capital 2/	1.75	2.05	2.61
Other nonland capital 3/	2.95	3.72	4.42
Land 4/	13.63	21.33	19.47
Unpaid labor	5.67	5.82	5.86
Total, economic (full-ownership) costs	93.64	107.34	113.18
Residual returns to management and risk 5/	-55.35	-41.86	-55.56
Harvest-period price (dollars per bushel)	2.32	3.35	3.85
Yield (bushels per planted acre)	16.46	19.49	14.92

See footnotes after Table 25B.

Table 25A--Wheat production cash costs and returns per planted acre,
Southwest, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	201.79	323.64	290.40
Wheat straw	.66	.80	.82
Total, gross value of production	202.45	324.44	291.22
Cash expenses:			
Seed	17.21	16.12	22.03
Fertilizer	18.30	20.02	21.52
Chemicals	9.96	10.12	10.56
Custom operations	21.86	23.99	24.40
Fuel, lube, and electricity	27.16	28.20	30.57
Repairs	9.53	10.04	11.29
Hired labor	8.70	8.98	9.47
Purchased irrigation water	7.29	7.29	7.31
Technical services	1.00	1.00	.99
Total, variable cash expenses	121.01	125.76	138.14
General farm overhead	17.43	24.36	26.49
Taxes and insurance	17.74	17.88	19.07
Interest on operating loans	7.24	10.45	11.39
Interest on real estate	14.82	18.07	16.32
Total, fixed cash expenses	57.23	70.76	73.27
Total, cash expenses	178.24	196.52	211.41
Gross value of production less cash expenses	24.21	127.92	79.81
Harvest-period price (dollars per bushel)	2.76	4.06	3.90
Yield (bushels per planted acre)	72.99	79.77	74.41

Table 25B--Wheat production economic costs and returns per planted acre,
Southwest, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Wheat	201.79	323.64	290.40
Wheat straw	.66	.80	.82
Total, gross value of production	202.45	324.44	291.22
Economic (full-ownership) costs:			
Variable cash expenses	121.01	125.76	138.16
General farm overhead	17.43	24.36	26.49
Taxes and insurance	17.74	17.88	19.07
Capital replacement	24.50	25.79	28.56
Operating capital ^{2/}	3.45	4.04	5.18
Other nonland capital ^{3/}	4.92	6.04	7.31
Land ^{4/}	92.49	107.82	113.13
Unpaid labor	19.38	19.98	21.08
Total, economic (full-ownership) costs	300.92	331.67	358.96
Residual returns to management and risk ^{5/}	-98.47	-7.23	-67.74
Harvest-period price (dollars per bushel)	2.76	4.06	3.90
Yield (bushels per planted acre)	72.99	79.77	74.41

^{1/} Includes both operator and landlord costs and returns. Excludes direct Government payments and program participation costs. ^{2/} Variable cash expenses multiplied by part of year used and by 6-month U.S. Treasury bill rate. ^{3/} Value of machinery and equipment multiplied by longrun rate of return to production assets in the farm sector. ^{4/} Rental value based on composite share and cash rent. ^{5/} Gross value of production less total economic costs.

Figure 25

Rice production costs per planted acre, excluding direct Government payments and participation costs, 1989

Dollars

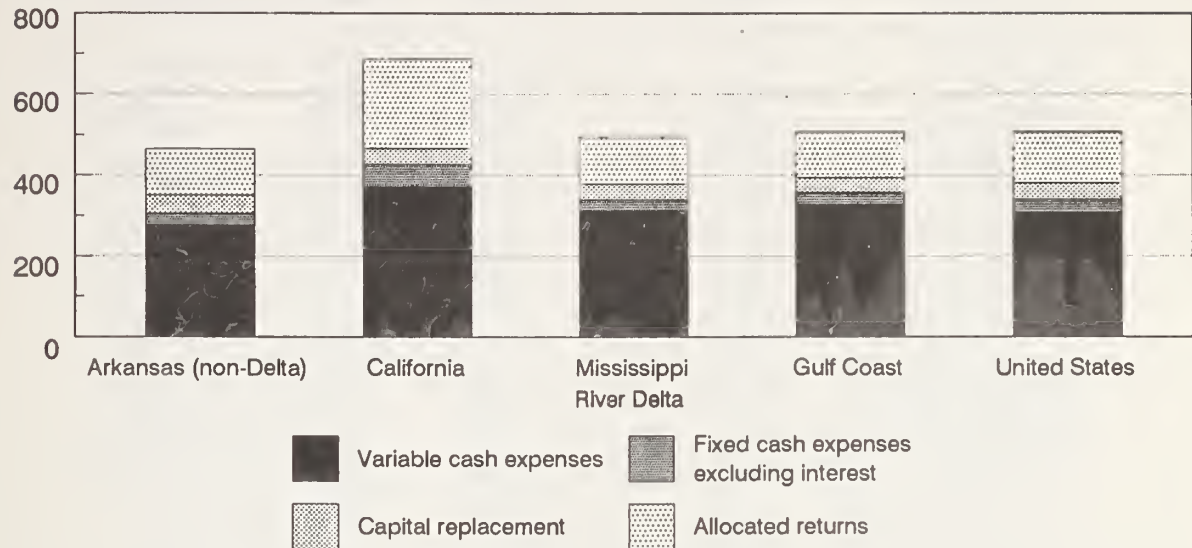


Figure 26

Rice production costs per planted acre, including direct Government payments and participation costs, 1989

Dollars

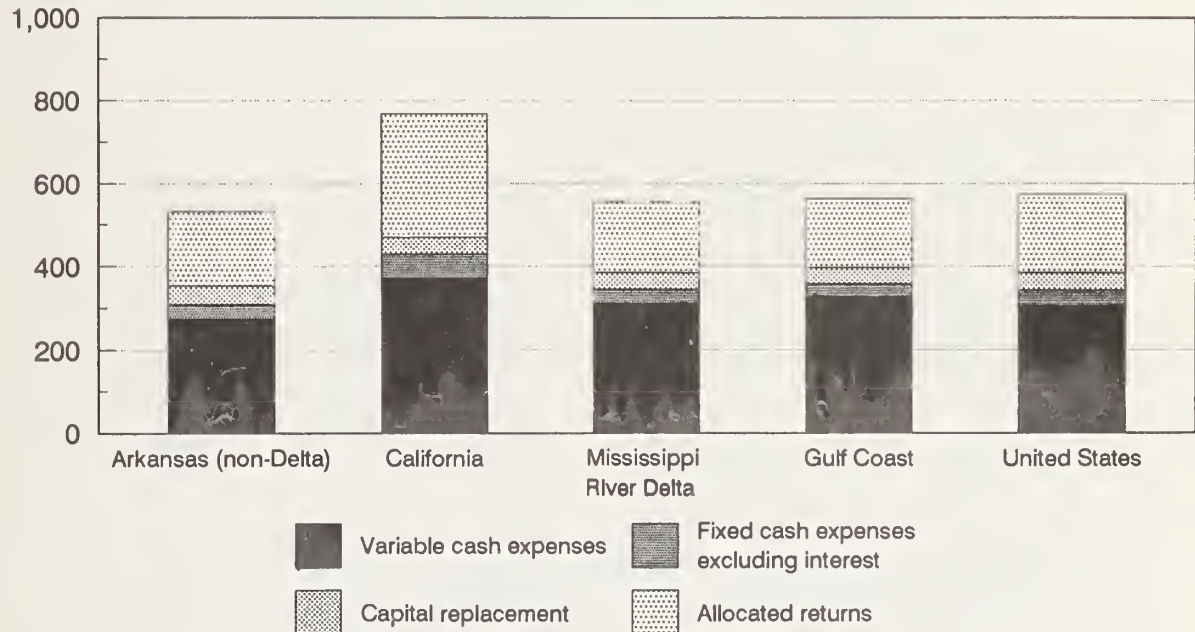


Table 26A--U.S. rice production cash costs and returns per planted acre, 1987-89 ^{1/}			
Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	263.89	367.49	412.15
Total, gross value of production	263.89	367.49	412.15
Cash expenses:			
Seed	21.01	21.24	21.44
Fertilizer	30.96	35.62	38.61
Chemicals	39.08	39.21	40.90
Custom operations	36.23	32.18	34.27
Fuel, lube, and electricity	47.10	55.19	58.11
Repairs	23.34	26.78	28.05
Hired labor	39.09	36.98	38.30
Purchased irrigation water	8.30	6.78	7.16
Drying	39.08	38.92	40.70
Technical services	.46	.44	.47
Miscellaneous	1.28	1.29	1.32
Total, variable cash expenses	285.93	294.63	309.33
General farm overhead	20.28	21.48	20.85
Taxes and insurance	12.02	12.01	12.81
Interest on operating loans	15.89	13.15	13.23
Interest on real estate	10.16	11.19	12.14
Total, fixed cash expenses	58.35	57.83	59.03
Total, cash expenses	344.28	352.46	368.36
Gross value of production less cash expenses	-80.39	15.03	43.79
Harvest-period price (dollars per hundredweight)	4.83	6.82	7.42
Yield (bushels per planted acre)	54.67	53.89	55.87

Table 26B--U.S. rice production economic costs and returns per planted acre, 1987-89 ^{1/}			
Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	263.89	367.49	412.15
Total, gross value of production	263.89	367.49	412.15
Economic (full-ownership) costs:			
Variable cash expenses	285.93	294.63	309.33
General farm overhead	20.28	21.48	20.85
Taxes and insurance	12.02	12.01	12.31
Capital replacement	44.27	41.54	43.54
Operating capital ^{2/}	5.65	10.19	12.44
Other nonland capital ^{3/}	8.01	16.70	18.10
Land ^{4/}	34.24	62.19	72.47
Unpaid labor	23.54	22.88	23.95
Total, economic (full-ownership) costs	433.94	481.62	512.99
Residual returns to management and risk ^{5/}	-170.05	-114.13	-100.84
Harvest-period price (dollars per hundredweight)	4.83	6.82	7.42
Yield (bushels per planted acre)	54.67	53.89	55.87

See footnotes after Table 30D.

Table 26C--U.S. rice production cash costs and returns per planted acre, including direct Government payments and program participation costs, 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	367.49	412.15
Direct Government payments <u>6/</u>	219.89	229.10
Total, gross value of production	587.38	641.25
Cash expenses:		
Seed	21.24	21.44
Fertilizer	35.62	38.61
Chemicals	39.23	40.92
Custom operations	32.18	34.27
Fuel, lube, and electricity	55.67	58.60
Repairs	28.09	29.39
Hired labor	37.16	38.49
Purchased irrigation water	6.78	7.16
Drying	38.92	40.70
Technical services	.44	.47
Miscellaneous	1.34	1.38
Total, variable cash expenses	296.67	311.43
General farm overhead	24.63	23.93
Taxes and insurance	12.21	12.51
Interest on operating loans	15.16	15.26
Interest on real estate	12.92	14.01
Total, fixed cash expenses	64.92	65.71
Total, cash expenses	361.59	377.14
Gross value of production less cash expenses	225.79	264.11
Harvest-period price (dollars per hundredweight)	6.82	7.42
Yield (bushels per planted acre)	53.89	55.87

Table 26D--U.S. rice production economic costs and returns per planted acre, including direct Government payments and program participation costs, 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	367.49	412.15
Direct Government payments <u>6/</u>	219.89	229.10
Total, gross value of production	587.38	641.25
Economic (full-ownership) costs:		
Variable cash expenses	296.67	311.43
General farm overhead	24.63	23.93
Taxes and insurance	12.21	12.51
Capital replacement	42.14	44.15
Operating capital <u>2/</u>	10.26	12.52
Other nonland capital <u>3/</u>	17.14	18.58
Land <u>4/</u>	118.04	132.78
Unpaid labor	23.02	24.09
Total, economic (full-ownership) costs	544.11	579.99
Residual returns to management and risk <u>5/</u>	43.27	61.26
Harvest-period price (dollars per hundredweight)	6.82	7.42
Yield (hundredweight per planted acre)	53.89	55.87

See footnotes after Table 30D.

Table 27A--Rice production cash costs and returns per planted acre,
Arkansas (non-Delta), 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	263.71	364.95	410.70
Total, gross value of production	263.71	364.95	410.70
Cash expenses:			
Seed	19.98	19.06	19.46
Fertilizer	27.50	32.06	34.68
Chemicals	31.90	32.41	33.93
Custom operations	30.28	25.16	26.84
Fuel, lube, and electricity	50.77	58.97	62.55
Repairs	28.33	28.73	30.20
Hired labor	34.94	32.40	33.60
Drying	32.70	32.61	34.86
Technical services	.15	.15	.16
Miscellaneous	1.32	1.33	1.37
Total, variable cash expenses	257.87	262.88	277.65
General farm overhead	16.22	18.20	17.66
Taxes and insurance	13.29	12.69	12.96
Interest on operating loans	12.69	11.19	11.25
Interest on real estate	12.15	14.56	15.54
Total, fixed cash expenses	54.35	56.64	57.41
Total, cash expenses	312.22	319.52	335.06
Gross value of production less cash expenses	-48.51	45.43	75.64
Harvest-period price (dollars per hundredweight)	4.92	6.93	7.47
Yield (hundredweight per planted acre)	53.60	52.66	54.98

Table 27B--Rice production economic costs and returns per planted acre,
Arkansas (non-Delta), 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	263.71	364.95	410.70
Total, gross value of production	263.71	364.95	410.70
Economic (full-ownership) costs:			
Variable cash expenses	257.87	262.88	277.65
General farm overhead	16.22	18.20	17.66
Taxes and insurance	13.29	12.69	12.96
Capital replacement	60.94	45.50	47.39
Operating capital <u>2/</u>	5.27	9.10	11.16
Other nonland capital <u>3/</u>	10.49	17.85	19.27
Land <u>4/</u>	29.01	57.55	67.34
Unpaid labor	16.19	16.87	17.48
Total, economic (full-ownership) costs	409.28	440.64	470.91
Residual returns to management and risk <u>5/</u>	-145.57	-75.69	-60.21
Harvest-period price (dollars per hundredweight)	4.92	6.93	7.47
Yield (hundredweight per planted acre)	53.60	52.66	54.98

See footnotes after Table 300.

Table 27C--Rice production cash costs and returns per planted acre, including direct Government payments and program participation costs, Arkansas (non-Delta), 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	364.95	410.70
Direct Government payments <u>6/</u>	213.19	222.76
Total, gross value of production	578.14	633.46
Cash expenses:		
Seed	19.06	19.46
Fertilizer	32.06	34.68
Chemicals	32.41	33.93
Custom operations	25.16	26.84
Fuel, lube, and electricity	59.35	62.95
Repairs	29.97	31.47
Hired labor	32.56	33.76
Drying	32.61	34.86
Technical services	.15	.16
Miscellaneous	1.42	1.47
Total, variable cash expenses	264.75	279.58
General farm overhead	21.91	21.27
Taxes and insurance	12.86	13.13
Interest on operating loans	13.53	13.61
Interest on real estate	17.38	18.55
Total, fixed cash expenses	65.68	66.56
Total, cash expenses	330.43	346.14
Gross value of production less cash expenses	247.71	287.32
Harvest-period price (dollars per hundredweight)	6.93	7.47
Yield (bushels per planted acre)	52.66	54.98

Table 27D--Rice production economic costs and returns per planted acre, including direct Government payments and program participation costs, Arkansas (non-Delta), 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	364.95	410.70
Direct Government payments <u>6/</u>	213.19	222.76
Total, gross value of production	578.14	633.46
Economic (full-ownership) costs:		
Variable cash expenses	264.75	279.58
General farm overhead	21.91	21.27
Taxes and insurance	12.86	13.13
Capital replacement	46.01	47.91
Operating capital <u>2/</u>	9.16	11.24
Other nonland capital <u>3/</u>	18.23	19.68
Land <u>4/</u>	117.81	130.87
Unpaid labor	16.99	17.61
Total, economic (full-ownership) costs	507.72	541.29
Residual returns to management and risk <u>5/</u>	70.42	92.17
Harvest-period price (dollars per hundredweight)	6.93	7.47
Yield (bushels per planted acre)	52.66	54.98

See footnotes after Table 30D.

Table 28A--Rice production cash costs and returns per planted acre,
California, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	316.19	423.57	530.51
Total, gross value of production	316.19	423.57	530.51
Cash expenses:			
Seed	21.59	22.01	22.06
Fertilizer	34.37	40.23	42.68
Chemicals	47.96	48.74	51.03
Custom operations	48.49	48.23	51.46
Fuel, lube, and electricity	47.51	54.85	59.08
Repairs	20.58	21.44	22.21
Hired labor	44.08	40.36	42.86
Purchased irrigation water	21.73	21.64	23.59
Drying	47.89	49.16	56.85
Technical services	1.14	1.15	1.25
Miscellaneous	1.40	1.41	1.46
Total, variable cash expenses	336.74	349.22	374.53
General farm overhead	34.93	38.11	36.99
Taxes and insurance	14.65	16.80	17.57
Interest on operating loans	27.11	18.69	18.80
Interest on real estate	24.32	25.83	27.56
Total, fixed cash expenses	101.01	99.43	100.92
Total, cash expenses	437.75	448.65	475.45
Gross value of production less cash expenses	-121.56	-25.08	55.06
Harvest-period price (dollars per hundredweight)	4.49	5.95	6.63
Yield (hundredweight per planted acre)	70.42	71.19	80.02

Table 28B--Rice production economic costs and returns per planted acre,
California, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	316.19	423.57	530.51
Total, gross value of production	316.19	423.57	530.51
Economic (full-ownership) costs:			
Variable cash expenses	336.74	349.22	374.53
General farm overhead	34.93	38.11	36.99
Taxes and insurance	14.65	16.80	17.57
Capital replacement	30.71	38.83	41.37
Operating capital <u>2/</u>	7.24	12.08	15.06
Other nonland capital <u>3/</u>	5.84	15.89	17.31
Land <u>4/</u>	81.70	116.19	137.96
Unpaid labor	44.21	46.99	49.90
Total, economic (full-ownership) costs	556.02	634.11	690.69
Residual returns to management and risk <u>5/</u>	-239.83	-210.54	-160.18
Harvest-period price (dollars per hundredweight)	4.49	5.95	6.63
Yield (hundredweight per planted acre)	70.42	71.19	80.02

See footnotes after Table 300.

Table 28C--Rice production cash costs and returns per planted acre, including direct Government payments and program participation costs, California, 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	423.57	530.51
Direct Government payments <u>6/</u>	327.96	329.18
Total, gross value of production	751.53	859.69
Cash expenses:		
Seed	22.01	22.06
Fertilizer	40.23	42.68
Chemicals	48.85	51.14
Custom operations	48.26	51.49
Fuel, lube, and electricity	55.18	59.46
Repairs	21.81	22.59
Hired labor	40.49	43.00
Purchased irrigation water	21.64	23.59
Drying	49.16	56.85
Technical services	1.15	1.25
Miscellaneous	1.51	1.56
Total, variable cash expenses	350.29	375.67
General farm overhead	40.92	39.72
Taxes and insurance	16.93	17.69
Interest on operating loans	20.78	20.90
Interest on real estate	27.84	29.70
Total, fixed cash expenses	106.47	108.01
Total, cash expenses	456.76	483.68
Gross value of production less cash expenses	294.78	376.01
Harvest-period price (dollars per hundredweight)	5.95	6.63
Yield (bushels per planted acre)	71.19	80.02

Table 28D--Rice production economic costs and returns per planted acre, including direct Government payments and program participation costs, California, 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	423.57	530.51
Direct Government payments <u>6/</u>	327.96	329.18
Total, gross value of production	751.53	859.69
Economic (full-ownership) costs:		
Variable cash expenses	350.29	375.67
General farm overhead	40.92	39.72
Taxes and insurance	16.93	17.69
Capital replacement	39.22	41.76
Operating capital <u>2/</u>	12.12	15.10
Other nonland capital <u>3/</u>	16.20	17.64
Land <u>4/</u>	190.12	215.65
Unpaid labor	47.13	50.04
Total, economic (full-ownership) costs	712.93	773.27
Residual returns to management and risk <u>5/</u>	38.60	86.42
Harvest-period price (dollars per hundredweight)	5.95	6.63
Yield (hundredweight per planted acre)	71.19	80.02

See footnotes after Table 30D.

Table 29A--Rice production cash costs and returns per planted acre,
Mississippi River Delta, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	239.94	357.00	403.40
Total, gross value of production	239.94	357.00	403.40
Cash expenses:			
Seed	19.01	20.81	20.88
Fertilizer	26.00	31.47	34.35
Chemicals	45.37	46.10	48.27
Custom operations	38.71	37.07	39.55
Fuel, lube, and electricity	39.75	53.53	56.07
Repairs	21.84	29.00	30.51
Hired labor	38.62	38.39	39.81
Purchased irrigation water	.43	.44	.48
Drying	36.13	39.32	42.11
Technical services	.84	.85	.92
Miscellaneous	1.30	1.31	1.35
Total, variable cash expenses	268.00	298.29	314.31
General farm overhead	19.08	19.11	18.55
Taxes and insurance	10.83	10.36	10.51
Interest on operating loans	12.58	11.53	11.60
Interest on real estate	5.06	5.35	5.71
Total, fixed cash expenses	47.55	46.35	46.37
Total, cash expenses	315.55	344.64	360.68
Gross value of production less cash expenses	-75.61	12.36	42.72
Harvest-period price (dollars per hundredweight)	4.98	6.94	7.49
Yield (hundredweight per planted acre)	48.18	51.44	53.86

Table 29B--Rice production economic costs and returns per planted acre,
Mississippi River Delta, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	239.94	357.00	403.40
Total, gross value of production	239.94	357.00	403.40
Economic (full-ownership) costs:			
Variable cash expenses	268.00	298.29	314.31
General farm overhead	19.08	19.11	18.55
Taxes and insurance	10.83	10.36	10.51
Capital replacement	40.19	39.64	41.64
Operating capital <u>2/</u>	5.43	10.32	12.64
Other nonland capital <u>3/</u>	7.64	15.87	17.24
Land <u>4/</u>	26.06	61.08	71.35
Unpaid labor	14.65	15.26	15.82
Total, economic (full-ownership) costs	391.88	469.93	502.06
Residual returns to management and risk <u>5/</u>	-151.94	-112.93	-98.66
Harvest-period price (dollars per hundredweight)	4.98	6.94	7.49
Yield (hundredweight per planted acre)	48.18	51.44	53.86

See footnotes after Table 30D.

Table 29C--Rice production cash costs and returns per planted acre,
including direct Government payments and program participation costs,
Mississippi River Delta, 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	357.00	403.40
Direct Government payments 6/	193.87	200.72
Total, gross value of production	550.87	604.12
Cash expenses:		
Seed	20.81	20.88
Fertilizer	31.47	34.35
Chemicals	46.12	48.29
Custom operations	37.07	39.55
Fuel, lube, and electricity	54.25	56.79
Repairs	31.51	33.10
Hired labor	38.67	40.10
Purchased irrigation water	.44	.48
Drying	39.32	42.11
Technical services	.85	.92
Miscellaneous	1.31	1.35
Total, variable cash expenses	301.82	317.92
General farm overhead	22.82	22.15
Taxes and insurance	10.67	10.82
Interest on operating loans	13.62	13.70
Interest on real estate	6.48	6.91
Total, fixed cash expenses	53.59	53.58
Total, cash expenses	355.41	371.50
Gross value of production less cash expenses	195.46	232.62
Harvest-period price (dollars per hundredweight)	6.94	7.49
Yield (bushels per planted acre)	51.44	53.86

Table 29D--Rice production economic costs and returns per planted acre,
including direct Government payments and program participation costs,
Mississippi River Delta, 1988-89 1/

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	357.00	403.40
Direct Government payments 6/	193.87	200.72
Total, gross value of production	550.87	604.12
Economic (full-ownership) costs:		
Variable cash expenses	301.82	317.92
General farm overhead	22.82	22.15
Taxes and insurance	10.67	10.82
Capital replacement	40.58	42.63
Operating capital 2/	10.44	12.78
Other nonland capital 3/	16.54	17.97
Land 4/	109.78	125.03
Unpaid labor	15.42	15.99
Total, economic (full-ownership) costs	528.07	565.29
Residual returns to management and risk 5/	22.80	38.83
Harvest-period price (dollars per hundredweight)	6.94	7.49
Yield (hundredweight per planted acre)	51.44	53.86

See footnotes after Table 30D.

Table 30A--Rice production cash costs and returns per planted acre,
Gulf Coast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	247.68	357.69	369.28
Total, gross value of production	247.68	357.69	369.28
Cash expenses:			
Seed	23.23	24.76	24.99
Fertilizer	36.42	43.15	47.24
Chemicals	38.83	39.78	41.33
Custom operations	34.79	32.19	34.19
Fuel, lube, and electricity	46.83	50.82	52.11
Repairs	19.62	23.88	24.87
Hired labor	41.62	41.56	42.77
Purchased irrigation water	15.69	17.14	17.82
Drying	43.70	44.35	41.93
Technical services	.21	.23	.24
Miscellaneous	1.13	1.15	1.15
Total, variable cash expenses	302.07	319.01	328.64
General farm overhead	18.27	21.92	21.02
Taxes and insurance	9.58	10.44	10.51
Interest on operating loans	16.40	15.44	15.50
Interest on real estate	4.74	5.03	5.35
Total, fixed cash expenses	48.99	52.83	52.38
Total, cash expenses	351.06	371.84	381.02
Gross value of production less cash expenses	-103.38	-14.15	-11.74
Harvest-period price (dollars per hundredweight)	4.89	7.03	7.63
Yield (hundredweight per planted acre)	50.63	50.85	48.32

Table 30B--Rice production economic costs and returns per planted acre,
Gulf Coast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Rice	247.68	357.69	369.28
Total, gross value of production	247.68	357.69	369.28
Economic (full-ownership) costs:			
Variable cash expenses	302.07	319.01	328.64
General farm overhead	18.27	21.92	21.02
Taxes and insurance	9.58	10.44	10.51
Capital replacement	33.90	38.10	39.77
Operating capital <u>2/</u>	5.32	11.04	13.21
Other nonland capital <u>3/</u>	6.44	15.95	17.28
Land <u>4/</u>	17.35	48.06	52.66
Unpaid labor	28.32	29.34	30.47
Total, economic (full-ownership) costs	421.25	493.86	513.56
Residual returns to management and risk <u>5/</u>	-173.57	-136.17	-144.28
Harvest-period price (dollars per hundredweight)	4.89	7.03	7.63
Yield (hundredweight per planted acre)	50.63	50.85	48.32

See footnotes after Table 30D.

Table 30C--Rice production cash costs and returns per planted acre, including direct Government payments and program participation costs, Gulf Coast, 1988-89 ^{1/}

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	357.69	369.28
Direct Government payments ^{6/}	209.15	220.39
Total, gross value of production	566.84	589.67
Cash expenses:		
Seed	24.76	24.99
Fertilizer	43.15	47.24
Chemicals	39.79	41.34
Custom operations	32.19	34.19
Fuel, lube, and electricity	51.29	52.56
Repairs	24.61	25.62
Hired labor	41.72	42.93
Purchased irrigation water	17.14	17.82
Drying	44.35	41.93
Technical services	.23	.24
Miscellaneous	1.17	1.17
Total, variable cash expenses	320.40	330.03
General farm overhead	23.81	22.88
Taxes and insurance	10.61	10.68
Interest on operating loans	16.82	16.90
Interest on real estate	5.44	5.79
Total, fixed cash expenses	56.68	56.25
Total, cash expenses	377.08	386.28
Gross value of production less cash expenses	189.76	203.39
Harvest-period price (dollars per hundredweight)	7.03	7.63
Yield (bushels per planted acre)	50.85	48.32

Table 30D--Rice production economic costs and returns per planted acre, including direct Government payments and program participation costs, Gulf Coast, 1988-89 ^{1/}

Item	1988	1989
<u>Dollars</u>		
Gross value of production:		
Market value of rice	357.69	369.28
Direct Government payments ^{6/}	209.15	220.39
Total, gross value of production	566.84	589.67
Economic (full-ownership) costs:		
Variable cash expenses	320.40	330.03
General farm overhead	23.81	22.88
Taxes and insurance	10.61	10.68
Capital replacement	38.61	40.31
Operating capital ^{2/}	11.09	13.27
Other nonland capital ^{3/}	16.34	17.69
Land ^{4/}	95.83	105.72
Unpaid labor	29.49	30.62
Total, economic (full-ownership) costs	546.18	571.20
Residual returns to management and risk ^{5/}	20.66	18.47
Harvest-period price (dollars per hundredweight)	7.03	7.63
Yield (hundredweight per planted acre)	50.85	48.32

^{1/} Includes both operator and landlord costs and returns. ^{2/} Variable cash expenses multiplied by part of year used and by 6-month U.S. Treasury bill rate. ^{3/} Value of machinery and equipment multiplied by longrun rate of return to production assets in the farm sector. ^{4/} Rental value based on composite share and cash rent. ^{5/} Gross value of production less total economic costs. ^{6/} Deficiency payments and marketing loan proceeds.

Figure 27

Soybean production costs per planted acre, 1989

Dollars

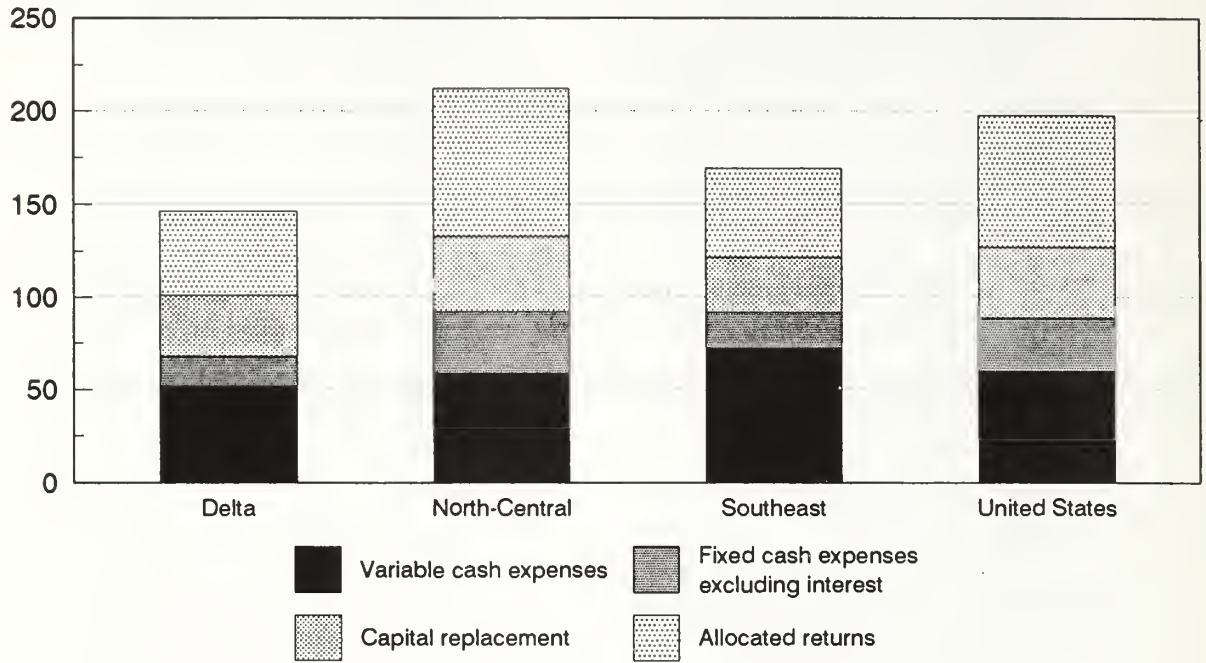


Figure 28

Soybean production costs per bushel harvested, 1975-89

Dollars

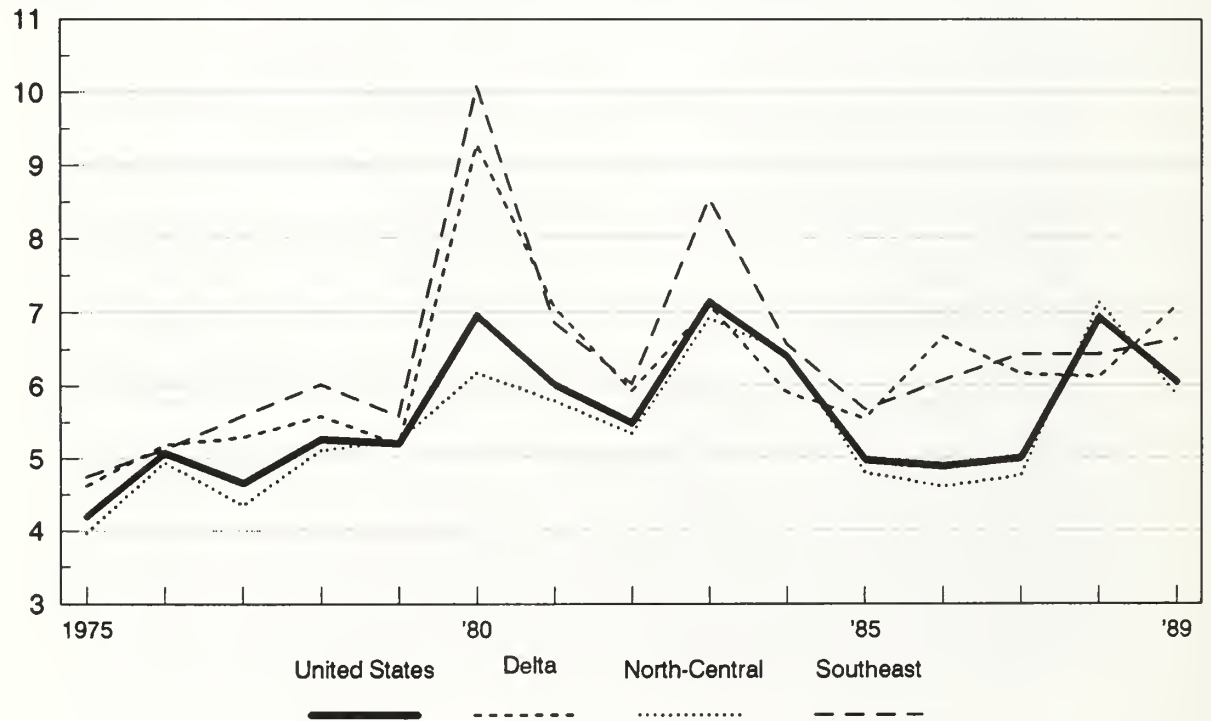


Table 31A--U.S. soybean production cash costs
and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	171.66	201.49	180.88
Total, gross value of production	171.66	201.49	180.88
Cash expenses:			
Seed	11.16	12.01	14.86
Fertilizer	5.00	6.31	6.59
Lime and gypsum	.29	.30	.31
Chemicals	12.04	12.24	12.85
Custom operations	4.00	4.00	4.27
Fuel, lube, and electricity	8.97	9.12	9.83
Repairs	6.63	7.30	7.80
Hired labor	2.62	2.80	2.87
Technical services	.05	.05	.05
Total, variable cash expenses	50.76	54.13	59.43
General farm overhead	10.81	12.44	14.64
Taxes and insurance	13.94	14.39	14.39
Interest on operating loans	6.48	5.94	6.97
Interest on real estate	12.54	13.26	13.07
Total, fixed cash expenses	43.77	46.03	49.07
Total, cash expenses	94.53	100.16	108.50
Gross value of production less cash expenses	77.13	101.33	72.38
Harvest-period price (dollars per bushel)	5.07	7.53	5.55
Yield (bushels per planted acre)	33.83	26.76	32.61

Table 31B--U.S. soybean production economic costs
and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	171.66	201.49	180.88
Total, gross value of production	171.66	201.49	180.88
Economic (full-ownership) costs:			
Variable cash expenses	50.76	54.13	59.43
General farm overhead	10.81	12.44	14.64
Taxes and insurance	13.94	14.39	14.39
Capital replacement	31.84	34.13	38.52
Operating capital ^{2/}	1.24	1.51	1.92
Other nonland capital ^{3/}	5.05	6.36	7.67
Land ^{4/}	45.56	52.22	50.30
Unpaid labor	9.86	10.54	10.81
Total, economic (full-ownership) costs	169.06	185.72	197.68
Residual returns to management and risk ^{5/}	2.60	15.77	-16.80
Harvest-period price (dollars per bushel)	5.07	7.53	5.55
Yield (bushels per planted acre)	33.83	26.76	32.61

See footnotes after Table 38B.

Table 32A--Soybean production cash costs and returns per planted acre,
Delta, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	115.91	184.85	119.96
Total, gross value of production	115.91	184.85	119.96
Cash expenses:			
Seed	10.10	10.75	12.11
Fertilizer	6.04	7.99	8.01
Chemicals	8.30	8.49	8.83
Custom operations	2.37	2.35	2.51
Fuel, lube, and electricity	9.63	9.73	9.79
Repairs	7.00	7.49	8.10
Hired labor	2.53	2.53	2.56
Technical services	.05	.05	.05
Total, variable cash expenses	46.02	49.38	51.96
General farm overhead	6.93	10.09	7.32
Taxes and insurance	8.30	8.54	8.53
Interest on operating loans	6.09	5.01	4.13
Interest on real estate	5.07	4.95	4.62
Total, fixed cash expenses	26.39	28.59	24.60
Total, cash expenses	72.41	77.97	76.56
Gross value of production less cash expenses	43.50	106.88	43.40
Harvest-period price (dollars per bushel)	5.54	7.47	5.82
Yield (bushels per planted acre)	20.93	24.74	20.60

Table 32B--Soybean production economic costs and returns per planted acre,
Delta, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	115.91	184.85	119.96
Total, gross value of production	115.91	184.85	119.96
Economic (full-ownership) costs:			
Variable cash expenses	46.02	49.38	51.96
General farm overhead	6.93	10.09	7.32
Taxes and insurance	8.30	8.54	8.53
Capital replacement	28.66	30.56	33.20
Operating capital <u>2/</u>	1.28	1.54	1.88
Other nonland capital <u>3/</u>	5.45	5.99	7.17
Land <u>4/</u>	23.59	36.10	26.48
Unpaid labor	9.52	9.53	9.63
Total, economic (full-ownership) costs	129.11	151.74	146.17
Residual returns to management and risk <u>5/</u>	-13.20	33.11	-26.21
Harvest-period price (dollars per bushel)	5.54	7.47	5.82
Yield (bushels per planted acre)	20.93	24.74	20.60

See footnotes after Table 38B.

Table 33A--Soybean production cash costs and returns per planted acre,
North-Central, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	190.44	207.12	198.21
Total, gross value of production	190.44	207.12	198.21
Cash expenses:			
Seed	11.58	12.60	15.85
Fertilizer	4.03	4.96	5.21
Lime and gypsum	.14	.15	.14
Chemicals	12.60	12.78	13.39
Custom operations	4.11	4.09	4.21
Fuel, lube, and electricity	8.85	9.03	9.82
Repairs	6.31	7.00	7.40
Hired labor	2.59	2.80	2.86
Technical services	.06	.06	.06
Total, variable cash expenses	50.26	53.47	58.94
General farm overhead	12.17	13.20	16.43
Taxes and insurance	15.99	16.59	16.59
Interest on operating loans	6.96	6.42	7.83
Interest on real estate	14.82	15.35	15.67
Total, fixed cash expenses	49.94	51.56	56.52
Total, cash expenses	100.20	105.03	115.46
Gross value of production less cash expenses	90.24	102.09	82.75
Harvest-period price (dollars per bushel)	5.00	7.54	5.50
Yield (bushels per planted acre)	38.08	27.46	36.03

Table 33B--Soybean production economic costs and returns per planted acre,
North-Central, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	190.44	207.12	198.21
Total, gross value of production	190.44	207.12	198.21
Economic (full-ownership) costs:			
Variable cash expenses	50.26	53.47	58.94
General farm overhead	12.17	13.20	16.43
Taxes and insurance	15.99	16.59	16.59
Capital replacement	33.40	35.93	40.89
Operating capital <u>2/</u>	1.19	1.44	1.85
Other nonland capital <u>3/</u>	5.22	6.61	7.99
Land <u>4/</u>	53.20	58.69	58.54
Unpaid labor	9.73	10.53	10.76
Total, economic (full-ownership) costs	181.16	196.46	211.99
Residual returns to management and risk <u>5/</u>	9.28	10.66	-13.78
Harvest-period price (dollars per bushel)	5.00	7.54	5.50
Yield (bushels per planted acre)	38.08	27.46	36.03

See footnotes after Table 388.

Table 34A--Soybean production cash costs and returns per planted acre,
Southeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	116.58	186.06	144.80
Total, gross value of production	116.58	186.06	144.80
Cash expenses:			
Seed	9.71	9.68	11.91
Fertilizer	10.59	13.40	13.75
Lime and gypsum	1.83	1.79	1.77
Chemicals	13.53	13.94	14.34
Custom operations	5.75	5.78	6.77
Fuel, lube, and electricity	8.85	8.85	9.91
Repairs	8.47	9.12	10.04
Hired labor	3.01	3.22	3.35
Total, variable cash expenses	61.74	65.78	71.83
General farm overhead	6.53	10.51	12.23
Taxes and insurance	7.25	7.41	7.53
Interest on operating loans	3.55	3.95	4.95
Interest on real estate	6.91	10.65	6.74
Total, fixed cash expenses	24.24	32.52	31.45
Total, cash expenses	85.98	98.30	103.28
Gross value of production less cash expenses	30.60	87.76	41.52
Harvest-period price (dollars per bushel)	5.36	7.50	5.68
Yield (bushels per planted acre)	21.73	24.79	25.48

Table 34B--Soybean production economic costs and returns per planted acre,
Southeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Soybeans	116.58	186.06	144.80
Total, gross value of production	116.58	186.06	144.80
Economic (full-ownership) costs:			
Variable cash expenses	61.74	65.78	71.83
General farm overhead	6.53	10.51	12.23
Taxes and insurance	7.25	7.41	7.53
Capital replacement	25.05	26.53	29.78
Operating capital 2/	1.60	1.95	2.43
Other nonland capital 3/	4.11	5.09	6.24
Land 4/	22.05	30.02	26.70
Unpaid labor	11.33	12.10	12.59
Total, economic (full-ownership) costs	139.66	159.39	169.33
Residual returns to management and risk 5/	-23.08	26.67	-24.53
Harvest-period price (dollars per bushel)	5.36	7.50	5.68
Yield (bushels per planted acre)	21.73	24.79	25.48

See footnotes after Table 38B.

Figure 29

Peanut production costs per planted acre, 1989

Dollars

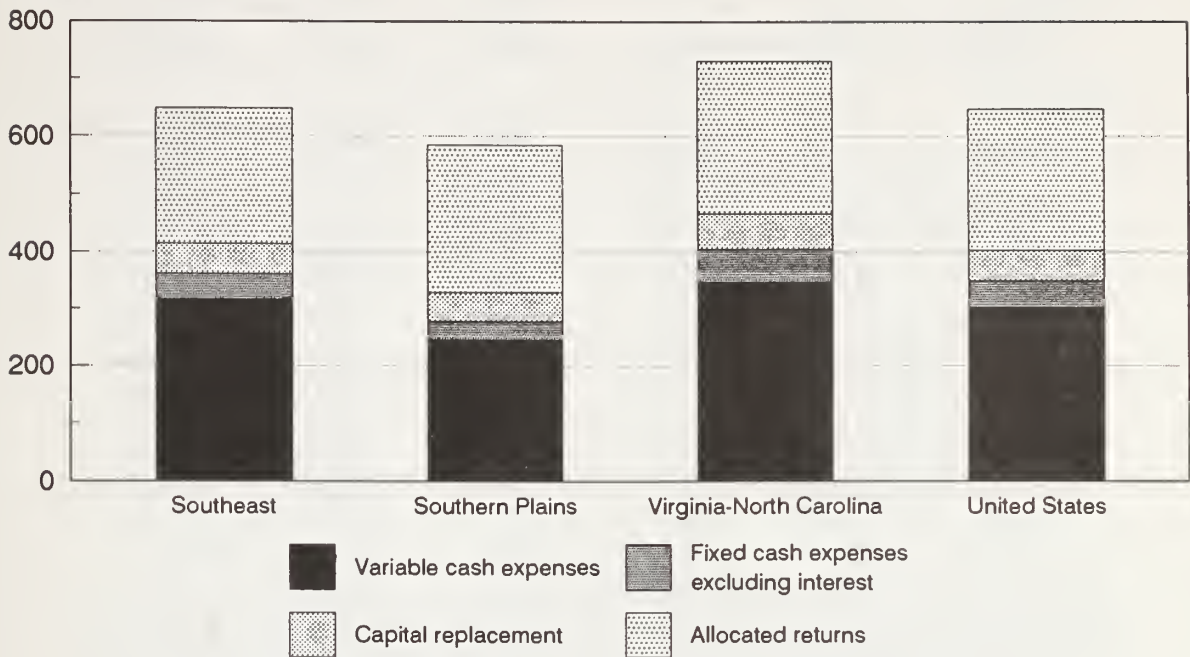


Figure 30

Peanut production costs per pound harvested, 1975-89

Cents

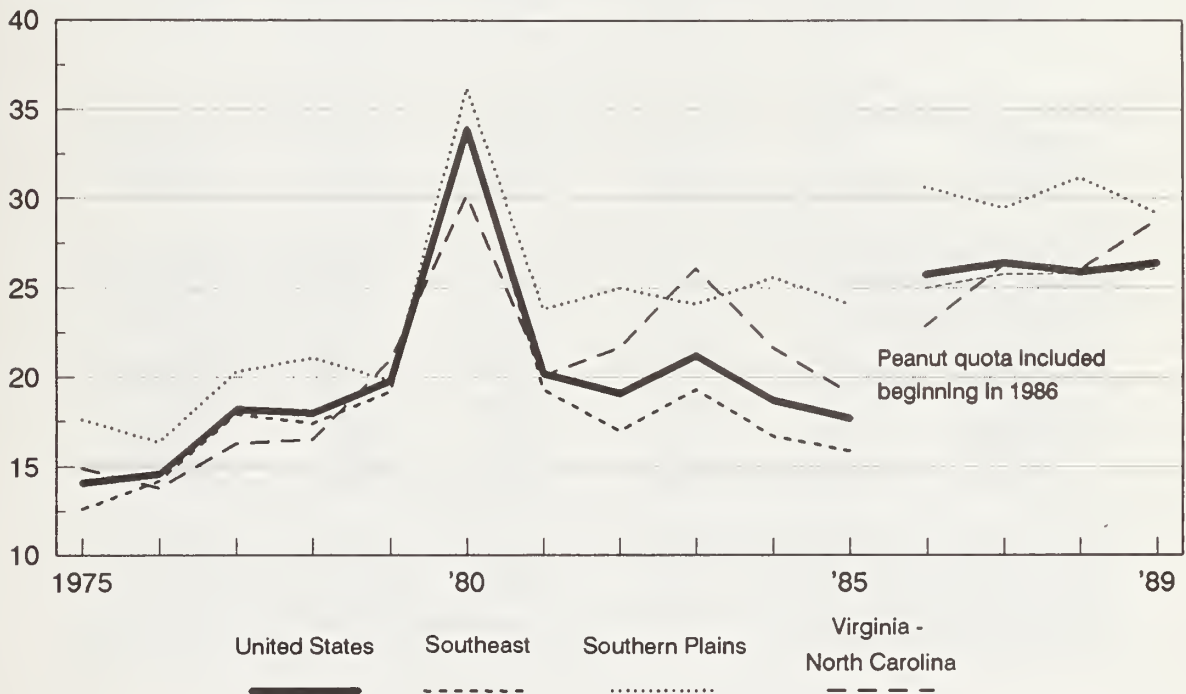


Table 35A--U.S. peanut production cash costs and returns per planted acre, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	644.81	681.98	668.22
Peanut hay	10.66	13.68	11.31
Total, gross value of production	655.47	695.66	679.53
Cash expenses:			
Seed	79.70	73.44	70.54
Fertilizer	16.28	20.02	20.53
Lime and gypsum	10.21	10.57	10.62
Chemicals	71.45	72.91	76.21
Custom operations	8.53	8.70	9.22
Fuel, lube, and electricity	34.08	33.72	36.56
Repairs	18.82	19.82	20.77
Hired labor	31.28	32.62	31.88
Drying	24.12	24.85	25.44
Technical services	.77	.77	.77
Total, variable cash expenses	295.24	297.42	302.54
General farm overhead	31.67	33.71	32.51
Taxes and insurance	13.17	13.37	13.72
Interest on operating loans	20.33	17.95	18.96
Interest on real estate	30.56	28.57	28.81
Total, fixed cash expenses	95.73	93.60	94.00
Total, cash expenses	390.97	391.02	396.54
Gross value of production less cash expenses	264.50	304.64	282.99
Harvest-period price (dollars per pound)	0.28	0.28	0.27
Yield (pounds per planted acre)	2,305.30	2,427.32	2,432.44

Table 35B--U.S. peanut production economic costs and returns per planted acre, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	644.81	681.98	668.22
Peanut hay	10.66	13.68	11.31
Total, gross value of production	655.47	695.66	679.53
Economic (full-ownership) costs:			
Variable cash expenses	295.24	297.42	302.54
General farm overhead	31.67	33.71	32.51
Taxes and insurance	13.17	13.37	13.72
Capital replacement	48.89	51.51	53.82
Operating capital <u>2/</u>	7.16	8.23	9.64
Other nonland capital <u>3/</u>	9.71	11.91	13.82
Land <u>4/</u>	60.63	63.79	65.09
Peanut quota <u>5/</u>	111.70	113.79	113.90
Unpaid labor	38.13	39.50	42.07
Total, economic (full-ownership) costs	616.30	633.23	647.11
Residual returns to management and risk <u>6/</u>	39.17	62.43	32.42
Harvest-period price (dollars per pound)	0.28	0.28	0.27
Yield (pounds per planted acre)	2,305.30	2,427.32	2,432.44

See footnotes after Table 38B.

Table 36A--Peanut production cash costs and returns per planted acre,
Southeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	675.26	717.16	682.62
Peanut hay	10.57	14.36	11.68
Total, gross value of production	685.83	731.52	694.30
Cash expenses:			
Seed	86.27	74.97	74.25
Fertilizer	18.31	22.65	22.65
Lime and gypsum	11.23	11.74	11.83
Chemicals	79.23	79.50	83.23
Custom operations	8.96	9.20	9.62
Fuel, lube, and electricity	33.25	32.16	35.70
Repairs	17.87	18.93	19.85
Hired labor	29.35	31.25	29.53
Drying	22.93	24.32	24.62
Technical services	.77	.76	.77
Total, variable cash expenses	307.17	305.48	312.05
General farm overhead	34.09	36.17	34.99
Taxes and insurance	12.75	13.01	13.52
Interest on operating loans	19.74	17.84	18.41
Interest on real estate	37.52	34.81	35.36
Total, fixed cash expenses	104.10	101.83	102.28
Total, cash expenses	411.27	407.31	414.33
Gross value of production less cash expenses	274.56	324.21	279.97
Harvest-period price (dollars per pound)	0.28	0.28	0.27
Yield (pounds per planted acre)	2,382.34	2,556.30	2,560.98

Table 36B--Peanut production economic costs and returns per planted acre,
Southeast, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	675.26	717.16	682.62
Peanut hay	10.57	14.36	11.68
Total, gross value of production	685.83	731.52	694.30
Economic (full-ownership) costs:			
Variable cash expenses	307.17	305.48	312.05
General farm overhead	34.09	36.17	34.99
Taxes and insurance	12.75	13.01	13.52
Capital replacement	47.89	50.70	52.83
Operating capital 2/	7.82	8.84	10.41
Other nonland capital 3/	9.24	11.41	13.20
Land 4/	47.52	52.98	49.96
Peanut quota 5/	120.00	122.46	122.58
Unpaid labor	34.01	36.07	38.24
Total, economic (full-ownership) costs	620.49	637.12	647.78
Residual returns to management and risk 6/	65.34	94.40	46.52
Harvest-period price (dollars per pound)	0.28	0.28	0.27
Yield (pounds per planted acre)	2,382.34	2,556.30	2,560.98

See footnotes after Table 388.

Table 37A--Peanut production cash costs and returns per planted acre,
Southern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	502.10	501.46	564.45
Peanut hay	10.73	10.88	9.75
Total, gross value of production	512.83	512.34	574.20
Cash expenses:			
Seed	57.43	49.64	48.52
Fertilizer	15.44	18.13	19.76
Lime and gypsum	.63	.53	.58
Chemicals	41.81	42.34	44.38
Custom operations	7.87	7.76	8.21
Fuel, lube, and electricity	34.08	34.73	37.71
Repairs	21.28	22.15	23.69
Hired labor	30.07	30.07	32.05
Drying	27.88	26.73	29.83
Technical services	.62	.63	.63
Total, variable cash expenses	237.11	232.71	245.36
General farm overhead	20.33	21.50	20.87
Taxes and insurance	11.33	11.31	11.46
Interest on operating loans	23.45	20.66	21.87
Interest on real estate	18.02	16.54	16.99
Total, fixed cash expenses	73.13	70.01	71.19
Total, cash expenses	310.24	302.72	316.55
Gross value of production less cash expenses	202.59	209.62	257.65
Harvest-period price (dollars per pound)	0.27	0.28	0.28
Yield (pounds per planted acre)	1,874.28	1,790.92	1,994.53

Table 37B--Peanut production economic costs and returns per planted acre,
Southern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	502.10	501.46	564.45
Peanut hay	10.73	10.88	9.75
Total, gross value of production	512.83	512.34	574.20
Economic (full-ownership) costs:			
Variable cash expenses	237.11	232.71	245.36
General farm overhead	20.33	21.50	20.87
Taxes and insurance	11.33	11.31	11.46
Capital replacement	46.30	48.02	51.26
Operating capital <u>2/</u>	5.22	5.86	7.04
Other nonland capital <u>3/</u>	9.39	11.33	13.51
Land <u>4/</u>	82.25	81.67	91.68
Peanut quota <u>5/</u>	92.50	93.36	93.45
Unpaid labor	48.57	48.69	50.65
Total, economic (full-ownership) costs	553.00	554.45	585.28
Residual returns to management and risk <u>6/</u>	-40.17	-42.11	-11.08
Harvest-period price (dollars per pound)	0.27	0.28	0.28
Yield (pounds per planted acre)	1,874.28	1,790.92	1,994.53

See footnotes after Table 38B.

Table 38A--Peanut production cash costs and returns per planted acre,
Virginia and North Carolina, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	734.81	796.01	761.64
Peanut hay	10.95	14.90	12.07
Total, gross value of production	745.76	810.91	773.71
Cash expenses:			
Seed	86.56	101.35	87.64
Fertilizer	9.49	11.90	12.74
Lime and gypsum	20.27	20.17	20.40
Chemicals	88.35	89.59	93.97
Custom operations	7.78	8.01	9.04
Fuel, lube, and electricity	37.32	38.72	38.42
Repairs	18.98	20.15	20.27
Hired labor	40.62	41.94	41.46
Drying	23.28	24.32	22.34
Technical services	1.01	1.01	1.01
Total, variable cash expenses	333.66	357.16	347.29
General farm overhead	38.78	41.23	39.80
Taxes and insurance	17.54	17.83	17.92
Interest on operating loans	18.06	15.94	16.84
Interest on real estate	21.67	20.18	20.43
Total, fixed cash expenses	96.05	95.18	94.99
Total, cash expenses	429.71	452.34	442.28
Gross value of production less cash expenses	316.05	358.57	331.43
Harvest-period price (dollars per pound)	0.28	0.28	0.30
Yield (pounds per planted acre)	2,635.69	2,808.86	2,542.96

Table 38B--Peanut production economic costs and returns per planted acre,
Virginia and North Carolina, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Peanuts	734.81	796.01	761.64
Peanut hay	10.95	14.90	12.07
Total, gross value of production	745.76	810.91	773.71
Economic (full-ownership) costs:			
Variable cash expenses	333.66	357.16	347.29
General farm overhead	38.78	41.23	39.80
Taxes and insurance	17.54	17.83	17.92
Capital replacement	56.60	59.86	61.73
Operating capital ^{2/}	7.42	9.07	10.26
Other nonland capital ^{3/}	12.02	14.83	16.89
Land ^{4/}	80.36	82.77	89.05
Peanut quota ^{5/}	106.18	107.48	107.58
Unpaid labor	38.99	40.40	40.22
Total, economic (full-ownership) costs	691.55	730.63	730.74
Residual returns to management and risk ^{6/}	54.21	80.28	42.97
Harvest-period price (dollars per pound)	0.28	0.28	0.30
Yield (pounds per planted acre)	2,635.69	2,808.86	2,542.96

^{1/} Includes both operator and landlord costs and returns. ^{2/} Variable cash expenses multiplied by part of year used and by 6-month U.S. Treasury bill rate. ^{3/} Value of machinery and equipment multiplied by longrun rate of return to production assets in the farm sector. ^{4/} Rental value based on composite share and cash rent. ^{5/} Rental value of peanut quota. ^{6/} Gross value of production less total economic costs.

Figure 31

Cotton production costs per planted acre, 1989

Dollars

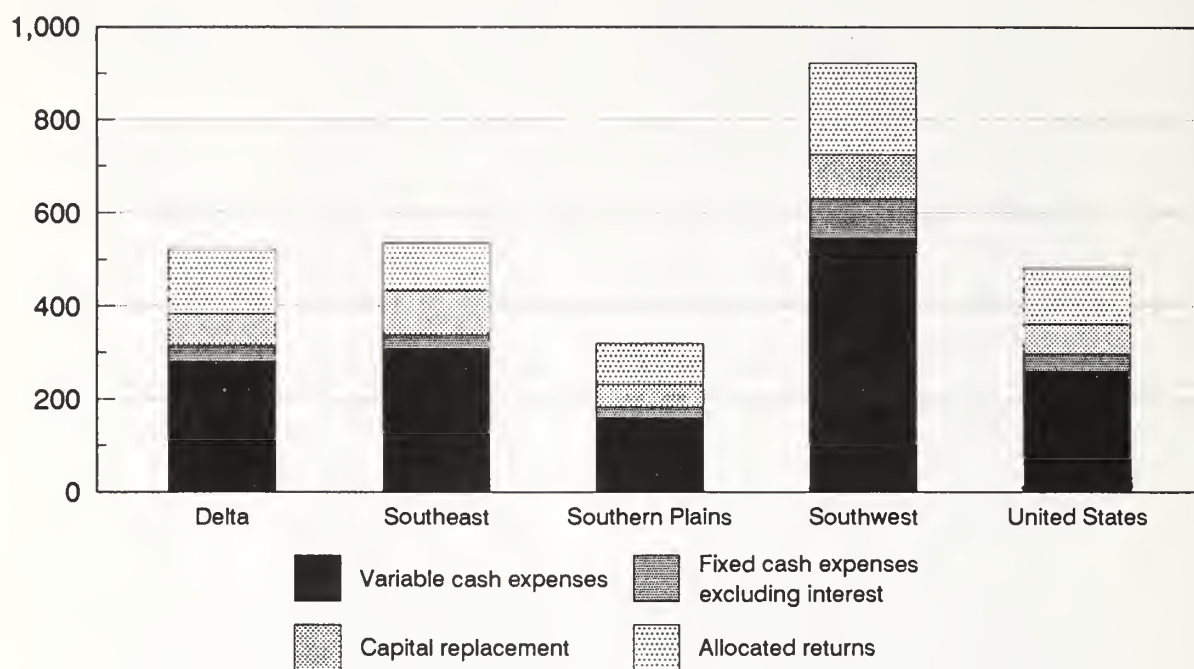


Figure 32

Cotton production costs per pound harvested, 1975-89

Cents

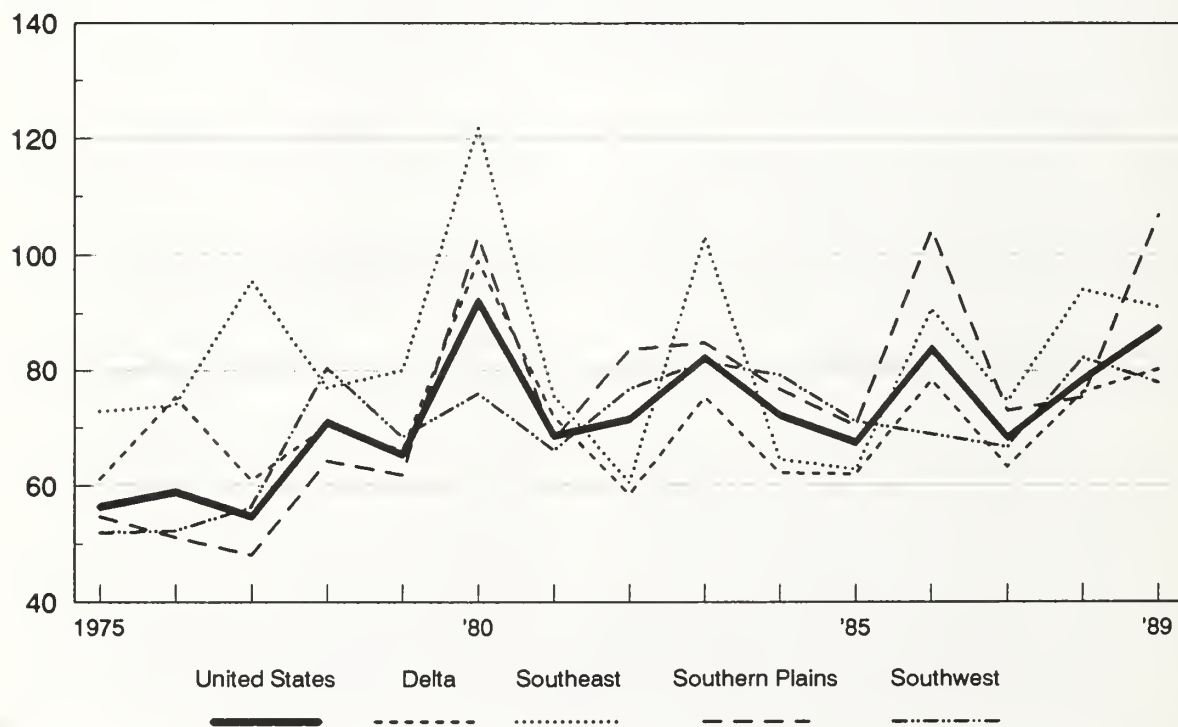


Table 39A--U.S. cotton production cash costs and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	446.48	315.54	360.40
Cottonseed	47.13	58.58	48.57
Total, gross value of production	493.61	374.12	408.97
Cash expenses:			
Seed	8.16	8.65	8.44
Fertilizer	22.24	25.99	28.43
Lime and gypsum	.41	.40	.40
Chemicals	44.51	45.75	48.71
Custom operations	11.89	11.63	11.73
Fuel, lube, and electricity	31.53	32.87	34.41
Repairs	21.13	23.28	23.94
Hired labor	40.21	41.01	42.96
Purchased irrigation water	9.12	9.03	9.30
Ginning	65.39	55.77	50.60
Technical services	1.55	1.54	1.52
Total, variable cash expenses	256.14	255.92	260.44
General farm overhead	21.59	23.46	22.29
Taxes and insurance	14.13	14.58	15.16
Interest on operating loans	15.54	14.02	14.60
Interest on real estate	18.68	17.25	17.60
Total, fixed cash expenses	69.94	69.31	69.65
Total, cash expenses	326.08	325.23	330.09
Gross value of production less cash expenses	167.53	48.89	78.88
Harvest-period price (dollars per pound)	0.65	0.53	0.66
Yield (pounds per planted acre)	684.66	593.33	549.80

Table 39B--U.S. cotton production economic costs and returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	446.48	315.54	360.40
Cottonseed	47.13	58.58	48.57
Total, gross value of production	493.61	374.12	408.97
Economic (full-ownership) costs:			
Variable cash expenses	256.14	255.92	260.44
General farm overhead	21.59	23.46	22.29
Taxes and insurance	14.13	14.58	15.16
Capital replacement	55.16	59.78	63.85
Operating capital ^{2/}	6.13	7.22	8.97
Other nonland capital ^{3/}	9.39	11.83	13.92
Land ^{4/}	83.85	71.00	73.36
Unpaid labor	21.36	21.66	22.71
Total, economic (full-ownership) costs	467.75	465.45	480.70
Residual returns to management and risk ^{5/}	25.86	-91.33	-71.73
Harvest-period price (dollars per pound)	0.65	0.53	0.66
Yield (pounds per planted acre)	684.66	593.33	549.80

See footnotes at end of Table 43B.

Table 40A--Cotton production cash costs and returns per planted acre,
Delta, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	502.38	347.82	417.49
Cottonseed	47.43	57.91	52.44
Total, gross value of production	549.81	405.73	469.93
Cash expenses:			
Seed	7.65	7.21	7.91
Fertilizer	27.75	34.31	36.82
Lime and gypsum	.72	.69	.69
Chemicals	70.14	71.17	74.49
Custom operations	12.41	11.76	12.32
Fuel, lube, and electricity	25.75	27.10	26.64
Repairs	24.41	29.24	27.18
Hired labor	40.83	41.32	42.83
Ginning	60.74	52.14	50.34
Technical services	.68	.68	.68
Total, variable cash expenses	271.08	275.62	279.90
General farm overhead	20.54	21.91	21.02
Taxes and insurance	13.87	14.85	14.74
Interest on operating loans	15.71	13.97	14.61
Interest on real estate	16.63	15.37	15.70
Total, fixed cash expenses	66.75	66.10	66.07
Total, cash expenses	337.83	341.72	345.97
Gross value of production less cash expenses	211.98	64.01	123.96
Harvest-period price (dollars per pound)	0.64	0.53	0.64
Yield (pounds per planted acre)	779.91	661.18	649.61

Table 40B--Cotton production economic costs and returns per planted acre,
Delta, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	502.38	347.82	417.49
Cottonseed	47.43	57.91	52.44
Total, gross value of production	549.81	405.73	469.93
Economic (full-ownership) costs:			
Variable cash expenses	271.08	275.62	279.90
General farm overhead	20.54	21.91	21.02
Taxes and insurance	13.87	14.85	14.74
Capital replacement	59.38	67.86	67.09
Operating capital <u>2/</u>	5.83	7.10	8.54
Other nonland capital <u>3/</u>	10.97	14.41	15.94
Land <u>4/</u>	91.46	80.67	91.92
Unpaid labor	20.69	21.11	21.90
Total, economic (full-ownership) costs	493.82	503.53	521.05
Residual returns to management and risk <u>5/</u>	55.99	-97.80	-51.12
Harvest-period price (dollars per pound)	0.64	0.53	0.64
Yield (pounds per planted acre)	779.91	661.18	649.61

See footnotes at end of Table 43B.

Table 41A--Cotton production cash costs and returns per planted acre,
Southeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	396.01	257.04	376.56
Cottonseed	34.63	42.53	43.41
Total, gross value of production	430.64	299.57	419.97
Cash expenses:			
Seed	6.41	6.83	6.79
Fertilizer	24.94	30.87	32.80
Lime and gypsum	2.19	1.98	2.07
Chemicals	96.99	98.68	103.30
Custom operations	9.74	8.04	8.82
Fuel, lube, and electricity	21.60	21.68	26.54
Repairs	20.33	21.82	28.32
Hired labor	44.56	46.37	49.63
Ginning	49.60	40.45	48.28
Technical services	.24	.24	.24
Total, variable cash expenses	276.60	276.96	306.79
General farm overhead	13.31	14.01	13.84
Taxes and insurance	13.63	14.10	17.56
Interest on operating loans	10.27	8.96	9.82
Interest on real estate	12.58	11.40	12.38
Total, fixed cash expenses	49.79	48.47	53.60
Total, cash expenses	326.39	325.43	360.39
Gross value of production less cash expenses	104.25	-25.86	59.58
Harvest-period price (dollars per pound)	0.66	0.53	0.64
Yield (pounds per planted acre)	603.08	486.49	586.85

Table 41B--Cotton production economic costs and returns per planted acre,
Southeast, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	396.01	257.04	376.56
Cottonseed	34.63	42.53	43.41
Total, gross value of production	430.64	299.57	419.97
Economic (full-ownership) costs:			
Variable cash expenses	276.60	276.96	306.79
General farm overhead	13.31	14.01	13.84
Taxes and insurance	13.63	14.10	17.56
Capital replacement	63.37	67.97	94.03
Operating capital ^{2/}	8.28	9.47	12.73
Other nonland capital ^{3/}	10.71	13.42	19.58
Land ^{4/}	46.50	43.95	49.90
Unpaid labor	17.34	17.98	20.50
Total, economic (full-ownership) costs	449.75	457.86	534.93
Residual returns to management and risk ^{5/}	-19.10	-158.29	-114.96
Harvest-period price (dollars per pound)	0.66	0.53	0.64
Yield (pounds per planted acre)	603.08	486.49	586.85

See footnotes at end of Table 43B.

Table 42A--Cotton production cash costs and returns per planted acre,
Southern Plains, 1987-89

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	295.23	207.25	184.49
Cottonseed	32.27	42.14	31.13
Total, gross value of production	327.50	249.39	215.62
Cash expenses:			
Seed	8.44	9.44	8.36
Fertilizer	11.12	12.69	14.28
Chemicals	18.36	18.67	19.58
Custom operations	7.70	7.82	6.81
Fuel, lube, and electricity	24.53	25.73	26.08
Repairs	16.98	17.91	18.53
Hired labor	27.61	27.70	28.88
Purchased irrigation water	.47	.47	.50
Ginning	52.51	46.87	31.83
Technical services	2.41	2.40	2.39
Total, variable cash expenses	170.13	169.70	157.96
General farm overhead	12.31	13.04	12.63
Taxes and insurance	11.29	11.47	11.85
Interest on operating loans	13.39	11.84	12.51
Interest on real estate	11.32	10.49	10.66
Total, fixed cash expenses	48.31	46.84	47.65
Total, cash expenses	218.44	216.54	205.61
Gross value of production less cash expenses	109.06	32.85	10.01
Harvest-period price (dollars per pound)	0.63	0.47	0.62
Yield (pounds per planted acre)	470.63	439.29	298.42

Table 42B--Cotton production economic costs and returns per planted acre,
Southern Plains, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	295.23	207.25	184.49
Cottonseed	32.27	42.14	31.13
Total, gross value of production	327.50	249.39	215.62
Economic (full-ownership) costs:			
Variable cash expenses	170.13	169.70	157.96
General farm overhead	12.31	13.04	12.63
Taxes and insurance	11.29	11.47	11.85
Capital replacement	43.61	46.00	49.04
Operating capital 2/	3.94	4.48	5.63
Other nonland capital 3/	7.23	8.89	10.38
Land 4/	74.82	57.14	49.87
Unpaid labor	20.11	20.16	21.99
Total, economic (full-ownership) costs	343.44	330.88	319.35
Residual returns to management and risk 5/	-15.94	-81.49	-103.73
Harvest-period price (dollars per pound)	0.63	0.47	0.62
Yield (pounds per planted acre)	470.63	439.29	298.42

See footnotes at the end of Table 43B.

Table 43A--Cotton production cash costs and returns per planted acre,
Southwest, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	876.89	643.93	829.93
Cottonseed	101.19	121.05	100.91
Total, gross value of production	978.08	764.98	930.84
Cash expenses:			
Seed	8.76	9.29	10.31
Fertilizer	48.98	53.80	58.27
Lime and gypsum	.61	.60	.56
Chemicals	68.25	70.27	77.55
Custom operations	25.85	25.59	27.90
Fuel, lube, and electricity	68.67	71.32	76.27
Repairs	29.71	31.39	34.22
Hired labor	79.73	82.69	86.88
Purchased irrigation water	57.15	56.97	58.34
Ginning	122.56	97.95	113.62
Technical services	.68	.68	.68
Total, variable cash expenses	510.95	500.55	544.60
General farm overhead	57.76	62.61	59.75
Taxes and insurance	24.28	24.66	25.85
Interest on operating loans	24.52	22.94	23.33
Interest on real estate	49.25	44.03	45.87
Total, fixed cash expenses	155.81	154.24	154.80
Total, cash expenses	666.76	654.79	699.40
Gross value of production less cash expenses	311.32	110.19	231.44
Harvest-period price (dollars per pound)	0.69	0.62	0.70
Yield (pounds per planted acre)	1,269.99	1,031.77	1,182.93

Table 43B--Cotton production economic costs and returns per planted acre,
Southwest, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production (excluding direct Government payments):			
Cotton	876.89	643.93	829.93
Cottonseed	101.19	121.05	100.91
Total, gross value of production	978.08	764.98	930.84
Economic (full-ownership) costs:			
Variable cash expenses	510.95	500.55	544.60
General farm overhead	57.76	62.61	59.75
Taxes and insurance	24.28	24.66	25.85
Capital replacement	83.51	88.31	95.16
Operating capital ^{2/}	13.17	15.64	19.31
Other nonland capital ^{3/}	13.40	16.52	19.77
Land ^{4/}	115.37	111.27	126.35
Unpaid labor	28.24	28.77	30.62
Total, economic (full-ownership) costs	846.68	848.33	921.41
Residual returns to management and risk ^{5/}	131.40	-83.35	9.43
Harvest-period price (dollars per pound)	0.69	0.62	0.70
Yield (pounds per planted acre)	1,269.99	1,031.77	1,182.93

^{1/} Includes both operator and landlord costs and returns. Excludes direct Government payments and program participation costs. ^{2/} Variable cash expenses multiplied by part of year used and by 6-month U.S. Treasury bill rate. ^{3/} Value of machinery and equipment multiplied by longrun real rate of return to production assets in the farm sector. ^{4/} Rental value based on composite share and cash rent. ^{5/} Gross value of production less total economic costs.

Figure 33

Sugar-beet production costs per planted acre, 1989

Dollars

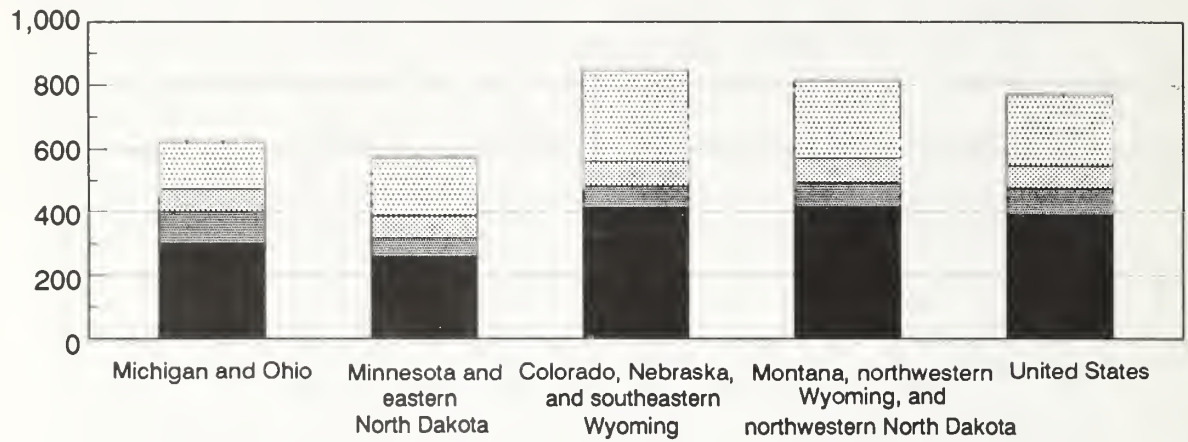


Figure 33--continued

Sugar-beet production costs per planted acre, 1989

Dollars

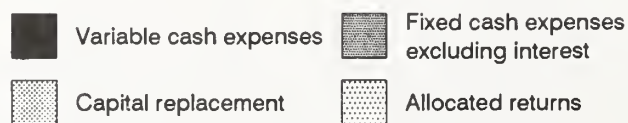
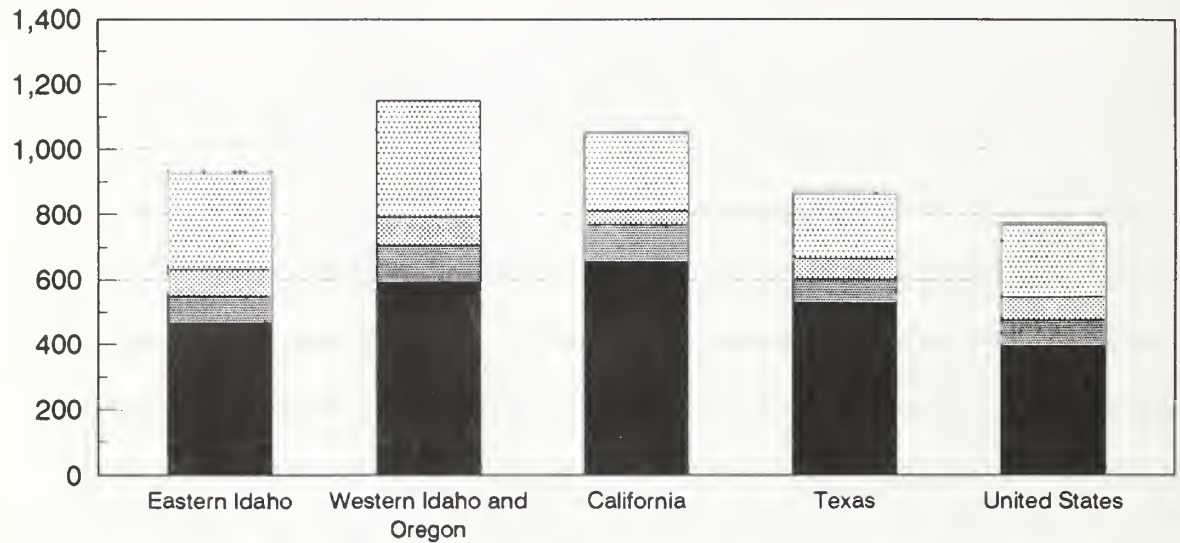


Table 44A--U.S. sugar-beet production cash costs and
returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	855.68	786.92	793.91
Beet tops	.95	1.06	1.03
Total, gross value of production	856.63	787.98	794.94
Cash expenses:			
Seed	23.52	31.01	25.51
Fertilizer	39.88	55.02	58.57
Chemicals	42.46	59.52	62.20
Custom operations	34.76	43.89	44.20
Fuel, lube, and electricity	41.74	40.94	44.79
Repairs	35.00	38.97	41.52
Hired labor	50.26	96.93	104.00
Noncash benefits	N/A	2.86	3.13
Purchased irrigation water	6.84	7.07	7.13
Freight and dirt-hauling charges	N/A	10.32	10.74
Miscellaneous	.38	2.55	2.72
Hauling allowance	N/A	-10.92	-11.32
Total, variable cash expenses	274.84	378.16	393.19
General farm overhead	51.49	46.14	47.00
Taxes and insurance	18.96	36.12	35.82
Interest	78.29	66.83	68.34
Total fixed cash expenses	148.74	149.09	151.16
Total, cash expenses	433.05	527.25	544.35
Gross value of production less cash expenses	429.23	260.73	250.59
Season-average price (dollars per net ton)	38.20	41.20	40.88
Yield (net tons per planted acre)	22.40	19.10	19.42

Table 44B--U.S. sugar-beet production economic costs and
returns per planted acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	855.68	786.92	793.91
Beet tops	.95	1.06	1.03
Total, gross value of production	856.63	787.98	794.94
Economic (full-ownership) costs:			
Variable cash expenses	274.84	378.16	393.19
General farm overhead	51.49	46.14	47.00
Taxes and insurance	18.96	36.12	35.82
Capital replacement	60.45	66.59	70.95
Operating capital ^{2/}	6.53	15.14	18.06
Other nonland capital ^{3/}	14.52	17.56	19.77
Land ^{4/}	115.71	143.75	153.33
Unpaid labor	49.58	31.40	34.48
Total, economic (full-ownership) costs	592.08	734.86	772.60
Residual returns to management and risk ^{5/}	264.55	53.12	22.34
Season-average price (dollars per net ton)	38.20	41.20	40.88
Yield (net tons per planted acre)	22.40	19.10	19.42

See footnotes after Table 57B.

Table 45A--Sugar-beet production cash costs and returns per
planted acre, Michigan and Ohio, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	595.93	587.68	718.29
Total, gross value of production	595.93	587.68	718.29
Cash expenses:			
Seed	14.07	16.80	15.56
Fertilizer	63.25	72.14	76.02
Chemicals	34.72	48.70	51.02
Custom operations	11.59	22.34	23.85
Fuel, lube, and electricity	23.77	23.40	25.52
Repairs	28.65	38.03	39.83
Hired labor	15.70	48.80	49.25
Noncash benefits	N/A	1.70	1.81
Freight and dirt-hauling charges	N/A	9.52	10.13
Miscellaneous	2.17	2.01	2.10
Hauling allowance	N/A	-.68	-.73
Total, variable cash expenses	193.92	282.76	294.37
General farm overhead	17.87	32.44	39.65
Taxes and insurance	32.12	68.55	68.09
Interest	58.08	62.47	76.35
Total fixed cash expenses	108.07	163.46	184.09
Total, cash expenses	301.99	446.22	478.46
Gross value of production less cash expenses	293.94	141.46	239.83
Season-average price (dollars per net ton)	30.25	35.90	42.03
Yield (net tons per planted acre)	19.70	16.37	17.09

Table 45B--Sugar-beet production economic costs and returns per planted acre,
Michigan and Ohio, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	595.93	587.68	718.29
Total, gross value of production	595.93	587.68	718.29
Economic (full-ownership) costs:			
Variable cash expenses	193.92	282.76	294.37
General farm overhead	17.87	32.44	39.65
Taxes and insurance	32.12	68.55	68.09
Capital replacement	46.73	68.80	72.98
Operating capital ^{2/}	4.22	9.81	11.86
Other nonland capital ^{3/}	11.80	19.52	21.96
Land ^{4/}	63.15	71.58	84.72
Unpaid labor	33.36	32.29	32.59
Total, economic (full-ownership) costs	403.17	585.75	626.22
Residual returns to management and risk ^{5/}	192.76	1.93	92.07
Season-average price (dollars per net ton)	30.25	35.90	42.03
Yield (net tons per planted acre)	19.70	16.37	17.09

See footnotes after Table 57B.

Table 46A--Sugar-beet production cash costs and returns per planted acre,
Minnesota and eastern North Dakota, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	838.88	622.94	604.45
Total, gross value of production	838.88	622.94	604.45
Cash expenses:			
Seed	23.67	38.33	23.01
Fertilizer	25.29	32.13	33.86
Chemicals	50.43	56.25	58.93
Custom operations	10.67	18.82	20.09
Fuel, lube, and electricity	23.08	20.79	22.67
Repairs	32.57	28.84	30.20
Hired labor	30.36	67.39	70.29
Noncash benefits	N/A	2.22	2.37
Freight and dirt-hauling charges	N/A	8.12	8.98
Miscellaneous	.22	1.36	1.42
Hauling allowance	N/A	-12.12	-13.31
Total, variable cash expenses	196.29	262.13	258.51
General farm overhead	45.13	34.20	33.18
Taxes and insurance	17.43	28.15	27.74
Interest	79.22	53.39	51.80
Total fixed cash expenses	141.78	115.74	112.73
Total, cash expenses	338.07	377.87	371.24
Gross value of production less cash expenses	500.81	245.07	233.21
Season-average price (dollars per net ton)	42.80	43.90	38.50
Yield (net tons per planted acre)	19.60	14.19	15.70

Table 46B--Sugar-beet production economic costs and returns per planted acre,
Minnesota and eastern North Dakota, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	838.88	622.94	604.45
Total, gross value of production	838.88	622.94	604.45
Economic (full-ownership) costs:			
Variable cash expenses	196.29	262.13	258.51
General farm overhead	45.13	34.20	33.18
Taxes and insurance	17.43	28.15	27.74
Capital replacement	59.43	66.46	70.50
Operating capital <u>2/</u>	4.13	9.49	10.93
Other nonland capital <u>3/</u>	14.80	17.95	20.19
Land <u>4/</u>	85.77	117.01	130.81
Unpaid labor	32.88	22.90	23.88
Total, economic (full-ownership) costs	455.86	558.29	575.74
Residual returns to management and risk <u>5/</u>	383.02	64.65	28.71
Season-average price (dollars per net ton)	42.80	43.90	38.50
Yield (net tons per planted acre)	19.60	14.19	15.70

See footnotes after Table 57B.

Table 47A--Sugar-beet production cash costs and returns per planted acre,
Colorado, Nebraska, and southeastern Wyoming, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	683.22	936.99	824.89
Beet tops	2.04	.40	.40
Total, gross value of production	685.26	937.39	825.29
Cash expenses:			
Seed	30.97	37.49	39.02
Fertilizer	28.90	49.68	52.35
Chemicals	26.02	49.91	52.29
Custom operations	16.53	25.97	27.73
Fuel, lube, and electricity	53.83	57.27	62.45
Repairs	39.88	46.30	48.49
Hired labor	54.76	90.65	97.98
Noncash benefits	N/A	3.82	4.08
Purchased irrigation water	6.00	4.64	4.95
Freight and dirt-hauling charges	N/A	22.85	21.11
Miscellaneous	.11	7.30	7.62
Hauling allowance	N/A	-5.18	-5.22
Total, variable cash expenses	257.00	390.70	412.84
General farm overhead	57.19	42.37	37.30
Taxes and insurance	17.02	33.34	32.96
Interest	86.14	70.96	62.47
Total fixed cash expenses	160.35	146.67	132.74
Total, cash expenses	417.35	537.37	545.58
Gross value of production less cash expenses	267.91	400.02	279.71
Season-average price (dollars per net ton)	35.40	43.10	41.08
Yield (net tons per planted acre)	19.30	21.74	20.08

Table 47B--Sugar-beet production economic costs and returns per planted acre,
Colorado, Nebraska, and southeastern Wyoming, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	683.22	936.99	824.89
Beet tops	2.04	.40	.40
Total, gross value of production	685.26	937.39	825.29
Economic (full-ownership) costs:			
Variable cash expenses	257.00	390.70	412.84
General farm overhead	57.19	42.37	37.30
Taxes and insurance	17.02	33.34	32.96
Capital replacement	69.28	76.00	78.31
Operating capital ^{2/}	6.13	13.70	16.81
Other nonland capital ^{3/}	16.22	19.41	20.18
Land ^{4/}	139.88	217.78	191.46
Unpaid labor	72.60	53.18	57.48
Total, economic (full-ownership) costs	635.32	846.48	847.34
Residual returns to management and risk ^{5/}	49.94	90.91	-22.05
Season-average price (dollars per net ton)	35.40	43.10	41.08
Yield (net tons per planted acre)	19.30	21.74	20.08

See footnotes after Table 57B.

Table 48A--Sugar-beet production cash costs and returns per planted acre,
Texas, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	630.40	819.68	819.78
Beet tops	1.61	13.88	13.88
Total, gross value of production	632.01	833.56	833.66
Cash expenses:			
Seed	25.57	24.32	23.20
Fertilizer	23.22	42.43	49.98
Chemicals	104.78	94.67	99.18
Custom operations	75.04	92.05	98.27
Fuel, lube, and electricity	96.06	109.76	119.68
Repairs	49.52	61.02	63.91
Hired labor	53.38	67.36	70.99
Noncash benefits	N/A	4.54	4.85
Miscellaneous	N/A	2.51	2.62
Hauling allowance	N/A	-6.26	-6.43
Total, variable cash expenses	427.57	497.40	526.25
General farm overhead	26.82	58.18	58.19
Taxes and insurance	11.76	16.43	16.93
Interest	49.69	66.52	66.53
Total fixed cash expenses	88.27	141.13	141.65
Total, cash expenses	515.84	638.53	667.90
Gross value of production less cash expenses	116.17	195.03	165.76
Season-average price (dollars per net ton)	32.00	37.60	39.00
Yield (net tons per planted acre)	19.70	21.80	21.02

Table 48B--Sugar-beet production economic costs and returns per planted acre,
Texas, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	630.40	819.68	819.78
Beet tops	1.61	13.88	13.88
Total, gross value of production	632.01	833.56	833.66
Economic (full-ownership) costs:			
Variable cash expenses	427.57	497.40	526.25
General farm overhead	26.82	58.18	58.19
Taxes and insurance	11.76	16.43	16.93
Capital replacement	62.62	62.31	64.20
Operating capital <u>2/</u>	10.20	12.43	21.41
Other nonland capital <u>3/</u>	13.27	17.43	14.58
Land <u>4/</u>	61.71	135.70	137.70
Unpaid labor	51.29	25.66	27.04
Total, economic (full-ownership) costs	655.24	827.28	866.30
Residual returns to management and risk <u>5/</u>	-33.23	6.28	-32.64
Season-average price (dollars per net ton)	32.00	37.60	39.00
Yield (net tons per planted acre)	19.70	21.80	21.02

See footnotes after Table 57B.

Table 49A--Sugar-beet production cash costs and returns per planted acre,
Montana, northwestern Wyoming, and northwestern North Dakota, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	895.71	931.95	866.37
Beet tops	1.63	4.21	4.21
Total, gross value of production	897.34	936.16	870.58
Cash expenses:			
Seed	30.47	31.37	32.83
Fertilizer	44.86	74.62	78.63
Chemicals	27.96	32.82	39.62
Custom operations	23.15	5.64	6.02
Fuel, lube, and electricity	32.22	39.80	43.40
Repairs	34.93	52.05	54.51
Hired labor	54.51	116.25	130.34
Noncash benefits	N/A	5.24	5.59
Purchased irrigation water	10.90	8.74	9.53
Freight and dirt-hauling charges	N/A	17.32	16.72
Miscellaneous	.18	2.06	2.15
Hauling allowance	N/A	-1.74	-1.79
Total, variable cash expenses	259.18	389.17	417.36
General farm overhead	55.73	59.82	55.63
Taxes and insurance	13.66	22.90	21.71
Interest	85.33	84.44	78.53
Total fixed cash expenses	154.72	167.16	155.87
Total, cash expenses	483.44	556.33	573.23
Gross value of production less cash expenses	484.26	379.83	297.35
Season-average price (dollars per net ton)	40.90	45.00	43.34
Yield (net tons per planted acre)	21.90	20.71	19.99

Table 49B--Sugar-beet production economic costs and returns per planted acre,
Montana, northwestern Wyoming, and northwestern North Dakota, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	895.71	931.95	866.37
Beet tops	1.63	4.21	4.21
Total, gross value of production	897.34	936.16	870.58
Economic (full-ownership) costs:			
Variable cash expenses	259.18	389.17	417.36
General farm overhead	55.73	59.82	55.63
Taxes and insurance	13.66	22.90	21.71
Capital replacement	58.96	75.30	76.15
Operating capital ^{2/}	6.09	13.53	16.85
Other nonland capital ^{3/}	13.95	19.49	20.90
Land ^{4/}	163.83	166.04	160.60
Unpaid labor	78.44	37.87	42.46
Total, economic (full-ownership) costs	649.84	784.12	811.66
Residual returns to management and risk ^{5/}	247.50	152.04	58.92
Season-average price (dollars per net ton)	40.90	45.00	43.34
Yield (net tons per planted acre)	21.90	20.71	19.99

See footnotes after Table 57B.

Table 50A--Sugar-beet production cash costs and returns per planted acre,
eastern Idaho, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	938.96	994.17	959.16
Beet tops	.27	.31	.31
Total, gross value of production	939.23	994.48	959.47
Cash expenses:			
Seed	21.87	26.12	22.90
Fertilizer	53.81	66.46	70.04
Chemicals	13.07	47.63	49.90
Custom operations	17.47	16.97	18.12
Fuel, lube, and electricity	84.95	80.59	87.88
Repairs	46.35	60.21	63.06
Hired labor	16.50	110.29	124.14
Noncash benefits	N/A	3.74	3.99
Purchased irrigation water	9.51	13.45	14.36
Freight and dirt-hauling charges	N/A	12.64	11.73
Miscellaneous	N/A	2.68	2.80
Hauling allowance	N/A	-3.29	-3.32
Total, variable cash expenses	263.53	437.49	465.59
General farm overhead	106.93	56.88	54.88
Taxes and insurance	17.62	27.33	28.00
Interest	87.86	91.79	88.56
Total fixed cash expenses	212.41	176.00	171.44
Total, cash expenses	475.94	613.49	637.03
Gross value of production less cash expenses	463.29	380.99	322.44
Season-average price (dollars per net ton)	38.80	43.30	45.01
Yield (net tons per planted acre)	24.20	22.96	21.31

Table 50B--Sugar-beet production economic costs and returns per planted acre,
eastern Idaho, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	938.96	994.17	959.16
Beet tops	.27	.31	.31
Total, gross value of production	939.23	994.48	959.47
Economic (full-ownership) costs:			
Variable cash expenses	263.53	437.49	465.59
General farm overhead	106.93	56.88	54.88
Taxes and insurance	17.62	27.33	28.00
Capital replacement	76.27	81.40	83.87
Operating capital <u>2/</u>	6.71	15.25	18.85
Other nonland capital <u>3/</u>	17.44	20.56	22.03
Land <u>4/</u>	108.65	204.24	203.22
Unpaid labor	93.51	49.17	55.35
Total, economic (full-ownership) costs	690.66	892.32	931.78
Residual returns to management and risk <u>5/</u>	248.57	102.16	27.69
Season-average price (dollars per net ton)	38.80	43.30	45.01
Yield (net tons per planted acre)	24.20	22.96	21.31

See footnotes after Table 57B.

Table 51A--Sugar-beet production cash costs and returns per planted acre,
western Idaho and Oregon, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	1,029.60	1,161.70	1,071.08
Beet tops	1.35	.19	.19
Total, gross value of production	1,030.95	1,161.89	1,071.27
Cash expenses:			
Seed	27.58	37.11	33.78
Fertilizer	79.58	105.88	111.58
Chemicals	59.16	63.52	66.54
Custom operations	34.37	36.56	39.03
Fuel, lube, and electricity	42.02	52.34	57.07
Repairs	36.50	55.51	58.14
Hired labor	93.95	181.38	200.46
Noncash benefits	N/A	4.90	5.23
Purchased irrigation water	9.23	11.82	12.62
Freight and dirt-hauling charges	N/A	7.21	6.80
Miscellaneous	.06	3.14	3.28
Hauling allowance	N/A	-1.35	-1.37
Total, variable cash expenses	382.45	558.02	593.15
General farm overhead	92.36	82.26	75.85
Taxes and insurance	15.81	38.88	38.01
Interest	139.78	100.39	92.56
Total fixed cash expenses	247.95	221.53	206.41
Total, cash expenses	630.40	779.55	799.56
Gross value of production less cash expenses	400.55	382.34	271.71
Season-average price (dollars per net ton)	36.00	42.60	41.66
Yield (net tons per planted acre)	28.60	27.27	25.71

Table 51B--Sugar-beet production economic costs and returns per planted acre,
western Idaho and Oregon, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	1,029.60	1,161.70	1,071.08
Beet tops	1.35	.19	.19
Total, gross value of production	1,030.95	1,161.89	1,071.27
Economic (full-ownership) costs:			
Variable cash expenses	382.45	558.02	593.15
General farm overhead	92.36	82.26	75.85
Taxes and insurance	15.81	38.88	38.01
Capital replacement	60.30	84.31	86.24
Operating capital <u>2/</u>	8.39	19.35	23.90
Other nonland capital <u>3/</u>	13.98	20.90	24.11
Land <u>4/</u>	233.31	266.84	252.23
Unpaid labor	38.38	46.32	51.19
Total, economic (full-ownership) costs	844.98	1,116.88	1,144.68
Residual returns to management and risk <u>5/</u>	185.97	45.01	-73.41
Season-average price (dollars per net ton)	36.00	42.60	41.66
Yield (net tons per planted acre)	28.60	27.27	25.71

See footnotes after Table 57B.

Table 52A--Sugar-beet production cash costs and returns per planted acre,
California, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	950.34	915.67	1,078.65
Beet tops	2.77	1.54	1.54
Total, gross value of production	953.11	917.21	1,080.19
Cash expenses:			
Seed	21.94	22.21	23.82
Fertilizer	38.54	66.01	69.56
Chemicals	43.23	92.26	96.65
Custom operations	117.71	164.86	176.00
Fuel, lube, and electricity	65.24	58.54	63.83
Repairs	34.65	31.74	33.24
Hired labor	109.84	171.94	183.57
Noncash benefits	N/A	2.01	2.15
Purchased irrigation water	23.64	27.76	29.64
Freight and dirt-hauling charges	N/A	7.42	8.11
Miscellaneous	N/A	3.16	3.30
Hauling allowance	N/A	-33.91	-37.03
Total, variable cash expenses	454.79	614.00	652.85
General farm overhead	49.11	60.63	71.40
Taxes and insurance	18.89	44.44	43.88
Interest	60.91	66.13	77.88
Total fixed cash expenses	128.91	171.20	193.16
Total, cash expenses	583.70	785.20	846.01
Gross value of production less cash expenses	369.41	132.01	234.18
Season-average price (dollars per net ton)	33.70	36.70	39.54
Yield (net tons per planted acre)	28.20	24.95	27.28

Table 52B--Sugar-beet production economic costs and returns per planted acre,
California, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugar beets	950.34	915.67	1,078.65
Beet tops	2.77	1.54	1.54
Total, gross value of production	953.11	917.21	1,080.19
Economic (full-ownership) costs:			
Variable cash expenses	454.79	614.00	652.85
General farm overhead	49.11	60.63	71.40
Taxes and insurance	18.89	44.44	43.88
Capital replacement	61.69	40.59	41.30
Operating capital <u>2/</u>	12.29	33.63	41.60
Other nonland capital <u>3/</u>	14.44	10.45	11.29
Land <u>4/</u>	148.80	137.85	163.58
Unpaid labor	56.59	21.32	22.76
Total, economic (full-ownership) costs	816.60	962.91	1,048.66
Residual returns to management and risk <u>5/</u>	136.51	-45.70	31.53
Season-average price (dollars per net ton)	33.70	36.70	39.54
Yield (net tons per planted acre)	28.20	24.95	27.28

See footnotes after Table 57B.

Table 53A--U.S. (excluding Hawaii) sugarcane production cash costs
and returns per harvested acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	858.13	870.16	858.98
Total, gross value of production	858.13	870.16	858.98
Cash expenses:			
Seed ^{6/}	2.70	4.02	4.57
Fertilizer	32.68	55.76	58.05
Chemicals	47.90	44.35	46.31
Custom operations	26.17	20.35	22.10
Fuel, lube, and electricity	32.59	33.02	36.00
Repairs	77.52	115.96	119.10
Hired labor	238.95	223.45	216.17
Noncash benefits	N/A	1.91	2.01
Purchased irrigation water	2.36	1.62	2.16
Miscellaneous	10.25	2.32	2.30
Hauling allowance	-9.39	-9.81	-11.01
Total, variable cash expenses	461.72	492.95	497.76
General farm overhead	56.07	59.68	59.63
Taxes and insurance	28.98	32.70	31.92
Interest	N/A	10.81	10.34
Total fixed cash expenses	85.04	103.19	101.88
Total, cash expenses	546.77	596.14	599.64
Gross value of production less cash expenses	311.36	274.02	259.34
Season-average price (dollars per net ton)	29.90	29.80	29.90
Yield (net tons per harvested acre)	28.70	29.20	28.73

Table 53B--U.S. (excluding Hawaii) sugarcane production economic costs
and returns per harvested acre, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	858.13	870.16	858.98
Total, gross value of production	858.13	870.16	858.98
Economic (full-ownership) costs:			
Variable cash expenses	461.72	492.95	497.76
General farm overhead	56.07	59.68	59.63
Taxes and insurance	28.98	32.70	31.92
Capital replacement	63.68	46.18	48.21
Operating capital ^{2/}	13.64	17.40	20.45
Other nonland capital ^{3/}	20.11	20.18	21.54
Land ^{4/}	155.12	143.09	148.58
Unpaid labor	25.02	21.33	24.13
Total, economic (full-ownership) costs	824.34	833.51	852.21
Residual returns to management and risk ^{5/}	33.79	36.65	6.77
Season-average price (dollars per net ton)	29.90	29.80	29.90
Yield (net tons per harvested acre)	28.70	29.20	28.73

See footnotes after Table 57B.

Table 54A--Sugarcane production cash costs and returns per harvested acre,
Florida, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	962.54	1,030.16	1,064.46
Total, gross value of production	962.54	1,030.16	1,064.46
Cash expenses:			
Seed ^{6/}	3.71	2.60	2.86
Fertilizer	34.38	66.85	70.45
Chemicals	42.45	47.89	50.17
Custom operations	32.45	24.59	26.25
Fuel, lube, and electricity	22.52	33.19	36.19
Repairs	84.02	147.71	154.70
Hired labor	391.42	320.02	312.21
Miscellaneous	17.93	4.03	4.21
Total, variable cash expenses	628.88	646.88	657.03
General farm overhead	62.09	74.16	77.41
Taxes and insurance	36.53	41.73	41.39
Interest	N/A	N/A	N/A
Total fixed cash expenses	98.62	115.89	118.80
Total, cash expenses	727.50	762.77	775.83
Gross value of production less cash expenses	235.04	267.39	288.63
Season-average price (dollars per net ton)	29.80	32.60	33.90
Yield (net tons per harvested acre)	32.30	31.60	31.40

Table 54B--Sugarcane production economic costs and returns per harvested acre,
Florida, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	962.54	1,030.16	1,064.46
Total, gross value of production	962.54	1,030.16	1,064.46
Economic (full-ownership) costs:			
Variable cash expenses	628.88	646.88	657.03
General farm overhead	62.09	74.16	77.41
Taxes and insurance	36.53	41.73	41.39
Capital replacement	49.49	33.88	34.91
Operating capital ^{2/}	19.04	22.39	26.41
Other nonland capital ^{3/}	21.49	24.29	26.40
Land ^{4/}	179.51	175.88	187.73
Unpaid labor	N/A	N/A	N/A
Total, economic (full-ownership) costs	997.03	1,019.21	1,051.28
Residual returns to management and risk ^{5/}	-34.49	10.95	13.18
Season-average price (dollars per net ton)	29.80	32.60	33.90
Yield (net tons per harvested acre)	32.30	31.60	31.40

See footnotes after Table 57B.

Table 55A--Sugarcane production cash costs and returns per harvested acre,
Hawaii, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	N/A	N/A	N/A
Total, gross value of production	N/A	N/A	N/A
Cash expenses:			
Seed <u>6/</u>	N/A	N/A	N/A
Fertilizer	236.72	222.45	234.42
Chemicals	96.70	109.93	115.16
Custom operations	45.29	49.91	53.28
Fuel, lube, and electricity	45.78	72.27	78.80
Repairs	319.22	386.76	405.05
Hired labor	1,128.53	1,123.09	1,177.56
Miscellaneous	99.14	86.16	89.93
Total, variable cash expenses	1,971.38	2,050.57	2,154.22
General farm overhead	231.58	231.63	241.78
Taxes and insurance	39.41	37.90	37.59
Interest	N/A	N/A	N/A
Total fixed cash expenses	270.99	269.53	279.36
Total, cash expenses	2,242.37	2,320.10	2,433.58
Gross value of production less cash expenses	N/A	N/A	N/A
Season-average price (dollars per net ton)	N/A	N/A	N/A
Yield (net tons per harvested acre)	100.80	90.60	89.40

Table 55B--Sugarcane production economic costs and returns per harvested acre,
Hawaii, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	N/A	N/A	N/A
Total, gross value of production	N/A	N/A	N/A
Economic (full-ownership) costs:			
Variable cash expenses	1,971.38	2,050.57	2,154.22
General farm overhead	231.58	231.63	241.78
Taxes and insurance	39.41	37.90	37.59
Capital replacement	203.43	141.01	145.30
Operating capital <u>2/</u>	59.73	70.86	86.60
Other nonland capital <u>3/</u>	121.67	78.86	85.72
Land <u>4/</u>	253.12	211.15	211.15
Unpaid labor	N/A	N/A	N/A
Total, economic (full-ownership) costs	2,880.32	2,821.98	2,962.35
Residual returns to management and risk <u>5/</u>	N/A	N/A	N/A
Season-average price (dollars per net ton)	N/A	N/A	N/A
Yield (net tons per harvested acre)	100.80	90.60	89.40

See footnotes after Table 57B.

Table 56A--Sugarcane production cash costs and returns per harvested acre,
Louisiana, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	696.89	662.86	685.16
Total, gross value of production	696.89	662.86	685.16
Cash expenses:			
Seed <u>6/</u>	1.54	5.46	6.01
Fertilizer	28.84	39.78	41.92
Chemicals	54.20	38.33	40.15
Custom operations	15.67	6.42	6.85
Fuel, lube, and electricity	49.04	32.68	35.63
Repairs	68.87	74.09	77.59
Hired labor	17.84	85.45	91.25
Noncash benefits	N/A	4.90	4.90
Hauling allowance	-24.72	-25.15	-26.85
Total, variable cash expenses	211.28	261.96	277.47
General farm overhead	46.83	38.51	39.81
Taxes and insurance	20.26	19.85	19.81
Interest	N/A	21.48	22.20
Total fixed cash expenses	67.09	79.84	81.81
Total, cash expenses	278.37	341.80	359.28
Gross value of production less cash expenses	418.52	321.06	325.88
Season-average price (dollars per net ton)	30.70	26.20	26.66
Yield (net tons per harvested acre)	22.70	25.30	25.70

Table 56B--Sugarcane production economic costs and returns per harvested acre,
Louisiana, 1987-89 1/

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	696.89	662.86	685.16
Total, gross value of production	696.89	662.86	685.16
Economic (full-ownership) costs:			
Variable cash expenses	211.28	261.96	277.47
General farm overhead	46.83	38.51	39.81
Taxes and insurance	20.26	19.85	19.81
Capital replacement	89.03	65.66	67.66
Operating capital <u>2/</u>	5.26	9.93	12.23
Other nonland capital <u>3/</u>	20.07	15.74	17.11
Land <u>4/</u>	123.73	99.36	103.97
Unpaid labor	63.72	52.25	55.90
Total, economic (full-ownership) costs	580.18	563.26	593.85
Residual returns to management and risk <u>5/</u>	116.71	99.60	91.32
Season-average price (dollars per net ton)	30.70	26.20	26.66
Yield (net tons per harvested acre)	22.70	25.30	25.70

See footnotes after Table 57B.

Table 57A--Sugarcane production cash costs and returns per harvested acre,
Texas, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	796.16	806.88	328.02
Total, gross value of production	796.16	806.88	328.02
Cash expenses:			
Seed ^{6/}	N/A	10.15	11.17
Fertilizer	42.50	53.55	56.43
Chemicals	62.11	52.54	55.04
Custom operations	34.37	95.78	102.25
Fuel, lube, and electricity	22.30	33.96	37.03
Repairs	69.25	71.69	75.08
Hired labor	181.20	192.77	203.16
Purchased irrigation water	47.16	40.47	43.21
Miscellaneous	.61	.61	.64
Total, variable cash expenses	459.50	551.52	584.01
General farm overhead	57.59	59.61	30.12
Taxes and insurance	9.14	29.23	28.99
Interest	N/A	60.76	24.70
Total, fixed cash expenses	66.73	149.60	83.81
Total, cash expenses	526.23	701.12	667.82
Gross value of production less cash expenses	269.93	105.76	-339.80
Season-average price (dollars per net ton)	25.60	24.60	13.28
Yield (net tons per harvested acre)	31.10	32.80	24.70

Table 57B--Sugarcane production economic costs and returns per harvested acre,
Texas, 1987-89 ^{1/}

Item	1987	1988	1989
<u>Dollars</u>			
Gross value of production:			
Sugarcane	796.16	806.88	328.02
Total, gross value of production	796.16	806.88	328.02
Economic (full-ownership) costs:			
Variable cash expenses	459.50	551.52	584.01
General farm overhead	57.59	59.61	30.12
Taxes and insurance	9.14	29.23	28.99
Capital replacement	32.73	31.47	32.43
Operating capital ^{2/}	15.68	19.08	23.48
Other nonland capital ^{3/}	4.60	4.88	5.30
Land ^{4/}	115.69	102.13	91.55
Unpaid labor	16.03	23.76	25.04
Total, economic (full-ownership) costs	710.96	821.68	820.91
Residual returns to management and risk ^{5/}	85.20	-14.80	-492.89
Season-average price (dollars per net ton)	25.60	24.60	13.28
Yield (net tons per harvested acre)	31.10	32.80	24.70

^{1/} Includes both operator and landlord costs and returns. ^{2/} Variable expenses multiplied by part of year used and by 6-month U.S. Treasury bill rate. ^{3/} Value of machinery and equipment multiplied by longrun rate of return to production assets in the farm sector. For Florida and Hawaii sugarcane--adjusted book value of assets multiplied by 10-year U.S. Treasury bill rate. ^{4/} Rental value based on composite share and cash rent. ^{5/} Gross value of production less total economic costs. ^{6/} Purchased seed only. Costs of homegrown seed cane are included in other variable cash expenses.

Table 58--Corn production costs per bushel, United States and regions, 1987-89 ^{1/}

Region/year	Yield per planted acre ^{2/}	Cash expenses			Total economic cost ^{3/}
		Variable	Fixed	Total	
	<u>Bushels</u>	<u>Dollars</u>			
United States:					
1987	118.8	0.99	0.34	1.33	2.06
1988	83.2	1.47	.48	1.96	3.16
1989	115.0	1.16	.36	1.52	2.51
Lake States and Corn Belt:					
1987	125.7	.94	.37	1.31	2.00
1988	77.2	1.60	.59	2.19	3.39
1989	119.5	1.12	.40	1.52	2.47
Northeast:					
1987	89.2	1.32	.33	1.66	2.53
1988	69.6	1.77	.43	2.20	3.50
1989	98.7	1.40	.32	1.73	2.77
Plains States:					
1987	115.2	.97	.26	1.23	2.03
1988	105.5	1.11	.28	1.39	2.59
1989	106.6	1.18	.29	1.47	2.56
Southeast:					
1987	81.0	1.51	.30	1.81	2.65
1988	71.1	1.84	.34	2.18	3.31
1989	101.1	1.42	.25	1.67	2.64

See footnotes at end of Table 68.

Table 59--Grain sorghum production costs per bushel, United States and regions, 1987-89 ^{1/}

Region/year	Yield per planted acre ^{2/}	Cash expenses			Total economic cost ^{3/}
		Variable	Fixed	Total	
	<u>Bushels</u>	<u>Dollars</u>			
United States:					
1987	68.6	0.81	0.39	1.19	1.98
1988	60.1	.94	.52	1.46	2.55
1989	51.0	1.20	.59	1.80	3.00
Central Plains:					
1987	72.7	.72	.40	1.12	1.82
1988	60.7	.89	.54	1.43	2.43
1989	53.0	1.10	.63	1.73	2.81
Southern Plains:					
1987	60.9	1.01	.36	1.37	2.33
1988	58.8	1.06	.47	1.53	2.81
1989	47.9	1.39	.53	1.92	3.34

See footnotes at end of Table 68.

Table 60--Oats production costs per bushel, United States and regions, 1987-89 1/

Region/year	Yield per planted acre 2/	Cash expenses			Total economic cost 3/
		Variable	Fixed	Total	
	<u>Bushels</u>	<u>Dollars</u>			
United States:					
1987	54.0	0.77	0.37	1.14	2.16
1988	35.5	1.29	.55	1.83	3.70
1989	53.8	.92	.36	1.28	2.56
Lake States and Corn Belt:					
1987	58.1	.78	.40	1.18	2.32
1988	38.9	1.26	.59	1.85	3.88
1989	65.4	.81	.36	1.17	2.45
Northeast:					
1987	58.2	1.24	.49	1.73	2.76
1988	50.7	1.54	.56	2.11	3.46
1989	55.9	1.51	.52	2.03	3.40
Northern Plains:					
1987	48.0	.65	.24	.89	1.74
1988	27.1	1.22	.45	1.67	3.43
1989	37.4	1.00	.32	1.32	2.55

See footnotes at end of Table 68.

Table 61--Barley production costs per bushel, United States and regions, 1987-89 1/

Region/year	Yield per planted acre 2/	Cash expenses			Total economic cost 3/
		Variable	Fixed	Total	
	<u>Bushels</u>	<u>Dollars</u>			
United States:					
1987	47.4	1.06	0.50	1.56	2.77
1988	27.5	1.89	.83	2.72	4.91
1989	43.5	1.35	.55	1.91	3.60
Northeast:					
1987	52.6	1.42	.58	2.00	3.32
1988	60.5	1.36	.53	1.89	3.19
1989	55.7	1.59	.60	2.19	3.72
Northern Plains:					
1987	43.1	.94	.49	1.43	2.63
1988	16.9	2.46	1.19	3.65	6.65
1989	37.6	1.27	.56	1.83	3.59
Northwest:					
1987	64.2	1.31	.50	1.81	3.02
1988	59.7	1.44	.54	1.98	3.49
1989	63.7	1.50	.52	2.02	3.57

See footnotes at end of Table 68.

Table 62--Wheat production costs per bushel, United States and regions, 1987-89 1/

Region/year	Yield per	Cash expenses			Total
	planted				economic cost 3/
	acre 2/	Variable	Fixed	Total	
	Bushels	Dollars			
United States:					
1987	31.9	1.39	0.76	2.15	3.59
1988	27.4	1.69	.90	2.59	4.57
1989	26.2	1.93	1.16	3.09	5.24
Central Plains:					
1987	34.1	1.10	.77	1.87	2.98
1988	31.3	1.24	.90	2.14	3.64
1989	18.7	2.15	1.45	3.60	5.77
North-Central:					
1987	48.0	1.11	.73	1.83	3.21
1988	46.9	1.25	.91	2.16	3.98
1989	50.9	1.28	1.06	2.34	4.17
Northeast:					
1987	41.8	2.04	1.88	3.92	5.10
1988	51.7	1.74	1.60	3.34	4.63
1989	39.3	2.51	2.46	4.98	6.61
Northern Plains:					
1987	30.8	1.17	.80	1.98	3.51
1988	12.6	2.81	1.31	4.12	7.91
1989	24.0	1.69	1.23	2.92	5.16
Northwest:					
1987	60.8	1.15	.72	1.87	3.12
1988	60.7	1.17	.83	2.00	3.61
1989	46.4	1.65	1.07	2.72	4.66
Southeast:					
1987	32.2	1.77	.61	2.38	3.72
1988	42.6	1.55	.61	2.16	3.37
1989	34.0	2.04	.80	2.84	4.44
Southern Plains:					
1987	16.5	2.74	.72	3.46	5.69
1988	19.5	2.41	.76	3.17	5.51
1989	14.9	3.38	1.10	4.48	7.59
Southwest:					
1987	73.0	1.66	.78	2.44	4.12
1988	79.8	1.58	.89	2.46	4.16
1989	74.4	1.86	.98	2.84	4.82

See footnotes at end of Table 68.

Table 63A--Rice production costs per hundredweight, United States and regions, 1987-89 1/

Region/year	Yield per planted acre 2/	Cash expenses			Total economic cost 3/
		Variable	Fixed	Total	
	<u>Cwt</u>	<u>Dollars</u>			
United States:					
1987	54.7	5.23	1.07	6.30	7.94
1988	53.9	5.47	1.07	6.54	8.94
1989	55.9	5.54	1.05	6.58	9.18
Arkansas (non-Delta):					
1987	53.6	4.81	1.01	5.83	7.64
1988	52.7	4.99	1.08	6.07	8.37
1989	55.0	5.05	1.04	6.09	8.57
California:					
1987	70.4	4.78	1.43	6.22	7.90
1988	71.2	4.91	1.40	6.30	8.91
1989	80.0	4.68	1.26	5.94	8.63
Mississippi River Delta:					
1987	48.2	5.56	.99	6.55	8.13
1988	51.4	5.80	.90	6.70	9.14
1989	53.9	5.84	.86	6.70	9.32
Gulf Coast:					
1987	50.6	5.97	.97	6.93	8.32
1988	50.9	6.27	1.04	7.31	9.71
1989	48.3	6.80	1.08	7.89	10.63

Table 63B--Rice production costs per hundredweight, including direct Government payments and program participation costs, United States and regions, 1988-89 1/

Region/year	Yield per planted acre 2/	Cash expenses			Total economic cost 3/
		Variable	Fixed	Total	
	<u>Cwt</u>	<u>Dollars</u>			
United States:					
1988	53.9	5.51	1.20	6.71	10.10
1989	55.9	5.57	1.18	6.75	10.38
Arkansas (non-Delta):					
1988	52.7	5.03	1.25	6.27	9.64
1989	55.0	5.09	1.21	6.30	9.85
California:					
1988	71.2	4.92	1.50	6.42	10.01
1989	80.0	4.69	1.35	6.04	9.66
Mississippi River Delta:					
1988	51.4	5.87	1.04	6.91	10.27
1989	53.9	5.90	.99	6.90	10.50
Gulf Coast:					
1988	50.9	6.30	1.11	7.42	10.74
1989	48.3	6.83	1.16	7.99	11.82

See footnotes at end of Table 68.

Table 64--Soybean production costs per bushel, United States and regions, 1987-89 ^{1/}

Region/year	Yield per	Cash expenses			Total
	planted	economic cost ^{3/}			
	acre ^{2/}	Variable	Fixed	Total	
	<u>Bushels</u>	<u>Dollars</u>			
United States:					
1987	33.8	1.50	1.29	2.79	5.00
1988	26.8	2.02	1.72	3.74	6.94
1989	32.6	1.82	1.50	3.33	6.06
Delta:					
1987	20.9	2.20	1.26	3.46	6.17
1988	24.7	2.00	1.16	3.15	6.13
1989	20.6	2.52	1.19	3.72	7.10
North-Central:					
1987	38.1	1.32	1.31	2.63	4.76
1988	27.5	1.95	1.88	3.82	7.15
1989	36.0	1.64	1.57	3.20	5.88
Southeast:					
1987	21.7	2.84	1.12	3.96	6.43
1988	24.8	2.65	1.31	3.97	6.43
1989	25.5	2.82	1.23	4.05	6.65

See footnotes at end of Table 68.

Table 65--Peanut production costs per pound, United States and regions, 1987-89 ^{1/}

Region/year	Yield per	Cash expenses			Total
	planted	economic cost ^{3/}			
	acre ^{2/}	Variable	Fixed	Total	
	<u>Pounds</u>	<u>Dollars</u>			
United States:					
1987	2,305.3	0.128	0.042	0.170	0.267
1988	2,427.3	.123	.039	.161	.261
1989	2,432.4	.124	.039	.163	.266
Southeast:					
1987	2,382.3	.129	.044	.173	.260
1988	2,556.3	.120	.040	.159	.249
1989	2,561.0	.122	.040	.162	.253
Southern Plains:					
1987	1,874.3	.127	.039	.166	.295
1988	1,790.9	.130	.039	.169	.310
1989	1,994.5	.123	.036	.159	.293
Virginia and North Carolina:					
1987	2,635.7	.127	.036	.163	.262
1988	2,808.9	.127	.034	.161	.260
1989	2,543.0	.137	.037	.174	.287

See footnotes at end of Table 68.

Table 66--Cotton production costs per pound, United States and regions, 1987-89 ^{1/}

Region/year	Yield per planted acre ^{2/}	Cash expenses			Total economic cost ^{3/}
		Variable	Fixed	Total	
	Pounds			Dollars	
United States:					
1987	648.7	0.374	0.102	0.476	0.683
1988	593.3	.431	.117	.548	.784
1989	549.8	.474	.127	.600	.874
Delta:					
1987	779.9	.348	.085	.433	.633
1988	661.2	.417	.100	.517	.762
1989	649.6	.431	.102	.533	.802
Southeast:					
1987	603.1	.459	.083	.541	.746
1988	486.5	.569	.100	.669	.941
1989	586.9	.523	.091	.614	.912
Southern Plains:					
1987	470.6	.361	.103	.464	.730
1988	439.3	.386	.107	.493	.753
1989	298.4	.529	.160	.689	1.070
Southwest:					
1987	1,270.0	.402	.123	.525	.667
1988	1,031.8	.485	.150	.635	.822
1989	1,182.9	.460	.130	.591	.779

See footnotes at end of Table 68.

Table 67--Sugar-beet production costs per net ton, United States and regions, 1987-89 1/

Region/year	Yield per planted acre 2/	Cash expenses			Total economic cost 3/
		Variable	Fixed	Total	
	<u>Net tons</u>	<u>Dollars</u>			
United States:					
1987	22.40	12.27	6.64	18.91	26.43
1988	19.10	19.80	7.81	27.61	38.47
1989	19.40	20.25	7.78	28.03	39.78
Michigan and Ohio:					
1987	19.70	9.84	5.49	15.33	20.47
1988	16.37	17.27	9.99	27.26	35.78
1989	17.09	17.22	10.77	27.99	36.64
Minnesota and eastern North Dakota:					
1987	19.60	10.01	7.23	17.24	23.26
1988	14.19	18.47	8.16	26.63	39.34
1989	15.70	16.47	7.18	23.65	36.67
Colorado, Nebraska, and southeastern Wyoming:					
1987	19.30	13.32	8.31	21.63	32.92
1988	21.74	17.97	6.75	24.72	38.94
1989	20.08	20.56	6.61	27.17	42.20
Texas:					
1987	19.70	21.70	4.48	26.18	33.77
1988	21.80	22.82	6.47	29.29	37.95
1989	21.02	25.04	6.74	31.78	41.21
Montana, northwestern Wyoming, and northwestern North Dakota:					
1987	21.90	11.83	7.06	18.89	29.67
1988	20.71	18.79	8.07	26.86	37.86
1989	19.99	20.88	7.80	28.68	40.60
Eastern Idaho:					
1987	24.20	10.89	8.78	19.67	28.54
1988	22.96	19.05	7.67	26.72	38.86
1989	21.31	21.85	8.05	29.90	43.73
Western Idaho and Oregon:					
1987	28.60	13.37	8.67	22.04	29.54
1988	27.27	20.46	8.12	28.58	40.96
1989	25.71	23.07	8.03	31.10	44.52
California:					
1987	28.20	16.13	4.57	20.70	28.96
1988	24.95	24.61	6.86	31.47	38.59
1989	27.28	23.93	7.08	31.01	38.44

See footnotes at end of Table 68.

Table 68--Sugarcane production costs per net ton, United States and regions, 1987-89 ^{1/}

Region/year	Yield per harvested acre ^{2/}	Cash expenses			Total economic cost ^{3/}
		Variable	Fixed	Total	
	<u>Net tons</u>	<u>Dollars</u>			
United States (excluding Hawaii):					
1987	28.70	16.09	2.96	19.05	28.72
1988	29.20	16.88	3.53	20.41	28.54
1989	28.70	17.33	3.55	20.88	29.66
Florida:					
1987	32.30	19.47	3.05	22.52	30.87
1988	31.60	20.47	3.67	24.14	32.25
1989	31.40	20.92	3.78	24.70	33.48
Hawaii:					
1987	100.80	19.56	2.69	22.25	28.57
1988	90.60	22.63	2.97	25.60	31.15
1989	89.40	24.10	3.12	27.22	33.14
Louisiana:					
1987	22.70	9.31	2.96	12.27	25.56
1988	25.30	10.35	3.16	13.51	22.26
1989	25.70	10.80	3.18	13.98	23.11
Texas:					
1987	31.10	14.77	2.15	16.92	22.86
1988	32.80	16.81	4.56	21.37	25.05
1989	24.70	23.64	3.39	27.03	33.24

^{1/} Includes both operator and landlord costs and costs of secondary products. Totals may not add due to rounding. Survey base changed for sugar beets and sugarcane in 1988.

^{2/} Weighted average of States surveyed. ^{3/} Economic costs are cash expenses less interest paid plus capital replacement and allocated returns to operating capital, nonland capital, land, and unpaid labor.

Table 69--U.S. corn production costs and returns per planted acre and costs per bushel, 1975-86 1/

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	217.50	187.11	180.12	225.94	275.97	279.46
Variable cash expenses	81.34	77.69	80.09	87.44	99.94	119.38
Interest paid	29.92	29.13	28.68	29.79	32.07	34.69
Other fixed cash expenses	19.18	20.51	22.23	18.47	21.77	31.15
Total cash expenses	130.43	127.34	131.00	135.70	153.78	185.22
Gross value of production less cash expenses	87.07	59.78	49.12	90.25	122.19	94.24
Capital replacement	14.28	17.63	18.56	19.17	23.00	25.29
Operating capital	2.30	1.94	1.97	2.77	3.99	5.57
Other nonland capital	4.33	5.01	4.70	4.54	5.35	5.31
Land	54.80	47.96	47.18	60.17	75.11	66.27
Unpaid labor	6.34	7.50	8.56	7.80	8.90	9.63
Total economic (full-ownership) costs 2/	182.57	178.24	183.30	200.36	238.07	262.60
Residual returns to management and risk 3/	34.94	8.88	-3.18	25.59	37.90	16.86
Costs per bushel:						
Variable cash expenses	.95	.89	.90	.87	.91	1.32
Fixed cash expenses	.57	.57	.57	.48	.49	.73
Total cash expenses	1.52	1.46	1.48	1.35	1.40	2.05
Total economic (full-ownership) costs 2/	2.13	2.05	2.06	1.99	2.17	2.91
Yield (bushels per planted acre)	85.70	87.10	88.80	100.50	109.60	90.15
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	260.17	243.63	252.90	273.23	252.63	167.60
Variable cash expenses	135.09	133.52	128.30	132.79	136.81	120.41
Interest paid	41.93	47.31	45.10	45.91	32.72	20.96
Other fixed cash expenses	30.35	30.13	28.67	32.37	28.40	24.23
Total cash expenses	207.37	210.96	202.07	211.07	197.93	165.60
Gross value of production less cash expenses	52.80	32.67	50.83	62.16	54.70	2.00
Capital replacement	28.01	33.25	33.56	33.73	34.62	29.77
Operating capital	7.42	6.03	4.75	5.42	4.36	2.53
Other nonland capital	5.41	5.89	5.19	6.78	6.56	5.29
Land	61.32	51.29	47.95	67.63	54.82	41.19
Unpaid labor	11.00	10.74	10.03	10.30	11.45	19.70
Total economic (full-ownership) costs 2/	278.60	270.86	258.45	289.61	277.02	243.12
Residual returns to management and risk 3/	-18.43	-27.23	-5.55	-16.38	-24.39	-75.52
Costs per bushel:						
Variable cash expenses	1.24	1.17	1.63	1.26	1.17	1.02
Fixed cash expenses	.66	.68	.94	.74	.52	.38
Total cash expenses	1.90	1.85	2.57	2.00	1.69	1.40
Total economic (full-ownership) costs 2/	2.55	2.38	3.28	2.74	2.36	2.05
Yield (bushels per planted acre)	109.28	113.76	78.76	105.79	117.29	118.46

See footnotes at end of Table 79.

Table 70--U.S. grain sorghum production costs and returns per planted acre and costs per bushel, 1975-86 ^{1/}

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	108.91	93.69	98.79	152.12	144.15	131.17
Variable cash expenses	41.07	36.78	40.49	43.02	51.42	58.26
Interest paid	12.19	11.81	11.59	12.13	13.23	14.48
Other fixed cash expenses	10.38	10.69	11.72	12.53	13.97	15.74
Total cash expenses	63.64	59.28	63.80	67.68	78.62	88.48
Gross value of production less cash expenses	45.26	34.41	34.99	84.44	65.54	42.69
Capital replacement	14.09	17.26	17.91	18.58	22.61	25.67
Operating capital	1.16	.89	.92	1.21	1.83	2.38
Other nonland capital	4.03	4.62	4.28	4.15	4.96	5.15
Land	21.98	18.28	19.46	23.11	31.81	28.61
Unpaid labor	7.53	8.42	9.34	8.06	9.17	9.46
Total economic (full-ownership) costs ^{2/}	100.25	96.95	104.13	110.67	135.78	145.27
Residual returns to management and risk ^{3/}	8.66	-3.26	-5.34	41.46	8.38	-14.10
Costs per bushel:						
Variable cash expenses	.90	.80	.75	.81	.84	1.35
Fixed cash expenses	.49	.49	.43	.46	.44	.70
Total cash expenses	1.39	1.29	1.18	1.27	1.28	2.05
Total economic (full-ownership) costs ^{2/}	2.19	2.11	1.92	2.08	2.21	3.37
Yield (bushels per planted acre)	45.80	46.00	54.10	53.20	61.40	43.16
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	141.50	121.36	131.58	123.73	124.99	91.57
Variable cash expenses	67.44	69.16	66.76	64.87	62.61	55.50
Interest paid	23.34	22.19	20.76	19.94	13.71	11.46
Other fixed cash expenses	17.60	15.56	15.47	16.02	13.18	13.93
Total cash expenses	108.38	106.91	102.99	100.83	89.50	80.89
Gross value of production less cash expenses	33.12	14.45	28.59	22.90	35.49	10.68
Capital replacement	27.26	23.87	26.74	23.93	22.56	23.04
Operating capital	3.33	2.90	2.29	2.42	2.17	1.32
Other nonland capital	4.99	4.10	4.04	4.73	4.11	4.19
Land	31.51	28.23	31.18	28.86	33.79	25.51
Unpaid labor	10.69	10.92	10.52	10.14	9.56	10.17
Total economic (full-ownership) costs ^{2/}	162.82	154.74	157.00	150.97	147.98	133.66
Residual returns to management and risk ^{3/}	-21.32	-33.38	-25.42	-27.24	-22.99	-42.09
Costs per bushel:						
Variable cash expenses	1.07	1.20	1.44	1.23	.95	.83
Fixed cash expenses	.65	.65	.78	.68	.41	.38
Total cash expenses	1.72	1.85	2.22	1.91	1.36	1.21
Total economic (full-ownership) costs ^{2/}	2.59	2.68	3.39	2.86	2.25	2.00
Yield (bushels per planted acre)	62.95	57.64	46.29	52.81	65.89	66.91

See footnotes at end of Table 79.

Table 71--U.S. oats production costs and returns per planted acre and costs per bushel, 1975-86 ^{1/}

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	90.83	91.34	95.12	90.17	87.70	101.52
Variable cash expenses	22.94	20.48	23.55	27.80	32.49	40.10
Interest paid	9.75	9.50	9.36	9.70	10.40	11.20
Other fixed cash expenses	6.80	7.54	8.21	9.94	11.88	16.30
Total cash expenses	39.49	37.53	41.13	47.44	54.77	67.60
Gross value of production less cash expenses	51.34	53.81	53.98	42.72	32.93	33.92
Capital replacement	8.91	10.34	11.46	14.05	15.25	16.60
Operating capital	.40	.33	.34	.58	.86	1.21
Other nonland capital	2.66	2.89	2.86	3.27	3.49	3.45
Land	15.44	13.84	14.81	19.45	22.70	19.39
Unpaid labor	4.63	5.10	5.68	8.69	9.41	10.23
Total economic (full-ownership) costs ^{2/}	61.78	60.52	66.92	83.78	96.08	107.28
Residual returns to management and risk ^{3/}	29.05	30.82	28.20	6.38	-8.38	-5.76
Costs per bushel:						
Variable cash expenses	.53	.51	.44	.55	.64	.80
Fixed cash expenses	.38	.42	.33	.39	.44	.55
Total cash expenses	.91	.93	.76	.95	1.08	1.35
Total economic (full-ownership) costs ^{2/}	1.42	1.50	1.24	1.67	1.89	2.15
Yield (bushels per planted acre)	43.60	40.30	53.80	50.10	50.90	49.92
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	121.37	103.77	94.60	104.74	79.43	68.94
Variable cash expenses	44.35	47.23	43.27	45.54	41.85	37.19
Interest paid	17.82	13.17	14.07	14.66	11.69	9.24
Other fixed cash expenses	17.22	16.88	17.53	18.90	17.43	20.55
Total cash expenses	79.39	77.28	74.87	79.10	70.97	66.98
Gross value of production less cash expenses	41.98	26.49	19.73	25.64	8.46	1.96
Capital replacement	18.39	22.05	22.98	23.42	19.17	27.45
Operating capital	1.60	1.40	1.03	1.23	.94	.60
Other nonland capital	3.47	4.48	4.18	5.33	4.15	5.98
Land	23.52	26.82	24.25	26.35	17.46	14.63
Unpaid labor	11.21	11.79	11.37	11.93	11.03	13.87
Total economic (full-ownership) costs ^{2/}	119.76	130.66	124.61	132.70	112.04	120.27
Residual returns to management and risk ^{3/}	1.61	-26.89	-30.01	-27.96	-32.61	-51.33
Costs per bushel:						
Variable cash expenses	.84	.85	.88	.90	.93	.65
Fixed cash expenses	.66	.54	.65	.66	.65	.52
Total cash expenses	1.50	1.40	1.53	1.56	1.57	1.18
Total economic (full-ownership) costs ^{2/}	2.27	2.36	2.55	2.61	2.48	2.12
Yield (bushels per planted acre)	52.84	55.25	48.92	50.82	45.14	56.78

See footnotes at end of Table 79.

Table 72--U.S. barley production costs and returns per planted acre and costs per bushel, 1975-86 ^{1/}

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	101.06	96.53	73.91	91.28	111.65	118.69
Variable cash expenses	34.64	32.92	31.31	41.64	49.04	56.23
Interest paid	15.16	14.74	14.49	15.09	16.30	17.71
Other fixed cash expenses	8.93	9.43	10.12	12.29	14.87	17.19
Total cash expenses	58.73	57.09	55.93	69.01	80.22	91.13
Gross value of production less cash expenses	42.32	39.44	17.99	22.26	31.43	27.56
Capital replacement	11.34	13.02	13.38	17.32	21.87	23.29
Operating capital	.78	.72	.72	.92	1.37	1.74
Other nonland capital	3.30	3.55	3.26	3.94	4.88	4.73
Land	20.92	19.63	15.80	24.77	27.38	28.06
Unpaid labor	3.95	4.56	5.23	5.61	5.71	5.96
Total economic (full-ownership) costs ^{2/}	83.87	83.84	79.81	106.49	125.12	137.20
Residual returns to management and risk ^{3/}	17.18	12.69	-5.90	-15.21	-13.47	-18.51
Costs per bushel:						
Variable cash expenses	.85	.80	.79	.91	1.03	1.30
Fixed cash expenses	.59	.59	.62	.60	.65	.81
Total cash expenses	1.45	1.38	1.41	1.51	1.68	2.11
Total economic (full-ownership) costs ^{2/}	2.07	2.03	2.02	2.33	2.62	3.17
Yield (bushels per planted acre)	40.60	41.30	39.60	45.80	47.80	43.28
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	124.80	117.65	120.31	119.27	87.04	71.23
Variable cash expenses	61.41	64.67	60.49	59.46	57.89	53.51
Interest paid	25.88	19.07	24.36	24.91	13.56	13.73
Other fixed cash expenses	18.52	16.64	17.86	18.26	14.49	14.24
Total cash expenses	105.81	100.38	102.71	102.63	85.94	81.48
Gross value of production less cash expenses	18.99	17.27	17.60	16.64	1.10	-10.25
Capital replacement	25.01	23.71	24.56	24.94	24.06	24.41
Operating capital	2.24	2.03	1.53	1.65	1.30	.82
Other nonland capital	4.60	4.18	3.90	4.89	4.47	4.48
Land	28.88	31.25	31.83	30.77	21.15	26.70
Unpaid labor	5.91	5.73	5.87	5.58	5.54	11.07
Total economic (full-ownership) costs ^{2/}	146.57	148.21	146.04	145.55	128.90	135.23
Residual returns to management and risk ^{3/}	-21.77	-30.56	-25.73	-26.28	-41.86	-64.00
Costs per bushel:						
Variable cash expenses	1.24	1.21	1.22	1.18	1.29	1.14
Fixed cash expenses	.89	.67	.85	.86	.62	.60
Total cash expenses	2.13	1.88	2.07	2.03	1.91	1.74
Total economic (full-ownership) costs ^{2/}	2.95	2.77	2.94	2.88	2.87	2.89
Yield (bushels per planted acre)	49.61	53.44	49.65	50.46	44.96	46.83

See footnotes at end of Table 79.

Table 73--U.S. wheat production costs and returns per planted acre and costs per bushel, 1975-86 1/

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	104.39	77.46	67.88	91.84	124.86	116.48
Variable cash expenses	32.59	30.82	28.83	30.19	37.01	46.76
Interest paid	12.42	12.06	11.86	12.37	13.40	14.58
Other fixed cash expenses	8.27	8.92	9.76	10.94	12.57	14.41
Total cash expenses	53.28	51.81	50.45	53.50	62.97	75.75
Gross value of production less cash expenses	51.10	25.65	17.43	38.34	61.89	40.73
Capital replacement	10.46	11.73	12.49	14.64	16.87	18.15
Operating capital	1.21	1.01	.96	1.22	1.95	2.83
Other nonland capital	2.97	3.12	2.97	3.25	3.68	3.64
Land	24.64	18.39	16.27	36.41	35.30	30.06
Unpaid labor	4.66	4.95	5.53	5.56	5.95	6.40
Total economic (full-ownership) costs 2/	84.81	78.95	76.82	102.21	113.33	122.25
Residual returns to management and risk 3/	19.58	-1.49	-8.94	-10.37	11.53	-5.77
Costs per bushel:						
Variable cash expenses	1.14	1.14	1.04	1.01	1.14	1.57
Fixed cash expenses	.73	.77	.78	.78	.80	.97
Total cash expenses	1.87	1.91	1.82	1.79	1.94	2.54
Total economic (full-ownership) costs 2/	2.98	2.91	2.77	3.42	3.50	4.09
Yield (bushels per planted acre)	28.50	27.10	27.70	29.90	32.40	29.87

	1981	1982	1983	1984	1985	1986
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	118.96	114.69	132.97	118.45	96.00	68.12
Variable cash expenses	55.29	56.03	56.77	55.01	51.10	45.67
Interest paid	19.81	18.45	21.86	22.98	12.69	9.08
Other fixed cash expenses	14.78	14.01	15.74	16.48	12.54	12.61
Total cash expenses	89.88	88.49	94.37	94.47	76.33	67.36
Gross value of production less cash expenses	29.08	26.20	38.60	23.98	19.67	.76
Capital replacement	19.30	19.41	21.02	20.48	19.63	19.90
Operating capital	3.91	3.09	2.51	2.72	2.11	1.38
Other nonland capital	3.46	3.24	3.19	3.84	3.67	3.66
Land	29.44	29.75	34.41	29.78	30.81	23.30
Unpaid labor	6.67	6.72	7.14	7.01	5.40	5.66
Total economic (full-ownership) costs 2/	132.85	132.25	140.78	135.31	125.26	112.18
Residual returns to management and risk 3/	-13.89	-17.56	-7.81	-16.86	-29.26	-44.06
Costs per bushel:						
Variable cash expenses	1.76	1.72	1.54	1.63	1.63	1.59
Fixed cash expenses	1.10	.99	1.02	1.17	.80	.75
Total cash expenses	2.86	2.71	2.56	2.80	2.43	2.34
Total economic (full-ownership) costs 2/	4.22	4.05	3.82	4.00	3.99	3.90
Yield (bushels per planted acre)	31.47	32.64	36.89	33.79	31.41	28.79

See footnotes at end of Table 79.

Table 74--U.S. rice costs and returns per planted acre and costs per hundredweight, 1975-86 1/

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	364.59	314.93	400.26	348.08	460.07	462.37
Variable cash expenses	189.25	185.84	171.06	181.71	201.64	234.46
Interest paid	52.74	51.11	50.19	52.49	57.17	62.55
Other fixed cash expenses	25.47	26.62	28.78	31.67	35.13	37.81
Total cash expenses	267.46	263.58	250.03	265.86	293.94	334.82
Gross value of production less cash expenses	97.13	51.35	150.23	82.21	166.14	127.55
Capital replacement	29.04	26.86	28.82	31.05	37.08	40.15
Operating capital	4.35	3.69	3.21	4.69	6.42	8.40
Other nonland capital	8.03	6.95	6.66	6.70	7.86	7.76
Land	67.37	58.12	74.36	70.47	96.26	87.84
Unpaid labor	13.26	14.94	10.06	10.71	11.91	12.87
Total economic (full-ownership) costs 2/	336.77	323.01	322.94	337.00	396.30	429.29
Residual returns to management and risk 3/	27.82	-8.08	77.32	11.07	63.78	33.08
Costs per hundredweight:						
Variable cash expenses	4.16	3.97	3.89	4.08	4.41	5.42
Fixed cash expenses	1.72	1.66	1.80	1.89	2.02	2.32
Total cash expenses	5.87	5.63	5.68	5.98	6.43	7.74
Total economic (full-ownership) costs 2/	7.40	6.90	7.34	7.57	8.67	9.93
Yield (hundredweight per planted acre)	45.54	46.79	43.99	44.49	45.70	43.24
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	487.67	356.65	400.12	393.22	430.71	218.41
Variable cash expenses	258.27	272.55	268.39	264.58	271.41	287.21
Interest paid	61.57	58.23	49.38	54.02	52.40	35.10
Other fixed cash expenses	35.54	33.36	33.55	35.93	39.29	32.01
Total cash expenses	355.38	364.14	351.32	354.53	363.10	354.32
Gross value of production less cash expenses	132.29	-7.49	48.80	38.69	67.61	-135.91
Capital replacement	42.94	45.27	47.94	49.71	51.44	40.69
Operating capital	11.00	8.89	6.78	7.88	6.18	5.01
Other nonland capital	7.51	7.62	7.31	10.12	10.03	7.65
Land	92.13	53.80	65.00	68.86	75.74	25.59
Unpaid labor	13.47	14.50	14.44	17.62	18.13	23.20
Total economic (full-ownership) costs 2/	460.86	435.99	443.42	454.70	472.21	421.36
Residual returns to management and risk 3/	26.81	-79.34	-43.30	-61.48	-41.50	-202.95
Costs per hundredweight:						
Variable cash expenses	5.41	5.82	5.89	5.41	5.05	5.04
Fixed cash expenses	2.03	1.95	1.82	1.84	1.70	1.18
Total cash expenses	7.44	7.77	7.72	7.25	6.75	6.22
Total economic (full-ownership) costs 2/	9.65	9.30	9.74	9.30	8.78	7.40
Yield (hundredweight per planted acre)	47.75	46.86	45.53	48.87	53.78	56.97

See footnotes at end of Table 79.

Table 75--U.S. soybean production costs and returns per planted acre and costs per bushel, 1975-86 ^{1/}

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	139.93	172.46	178.46	195.43	201.32	199.71
Variable cash expenses	38.23	34.88	41.23	44.81	50.58	56.38
Interest paid	19.64	19.13	18.84	19.56	21.05	22.75
Other fixed cash expenses	10.86	11.46	12.52	14.02	15.67	20.73
Total cash expenses	68.73	65.48	72.58	78.39	87.30	99.86
Gross value of production less cash expenses	71.19	106.98	105.87	117.05	114.03	99.85
Capital replacement	13.42	15.18	16.28	16.43	18.62	19.37
Operating capital	1.05	.89	1.05	1.66	2.35	3.00
Other nonland capital	3.83	4.06	3.89	3.66	4.08	3.91
Land	44.57	54.04	57.12	63.37	64.17	64.98
Unpaid labor	6.84	7.43	8.47	9.83	10.80	11.52
Total economic (full-ownership) costs ^{2/}	118.80	127.95	140.55	153.78	166.27	179.89
Residual returns to management and risk ^{3/}	21.12	44.51	37.90	41.66	35.05	19.82
Costs per bushel:						
Variable cash expenses	1.35	1.38	1.37	1.53	1.59	2.18
Fixed cash expenses	1.08	1.21	1.04	1.15	1.15	1.68
Total cash expenses	2.43	2.60	2.40	2.68	2.74	3.86
Total economic (full-ownership) costs ^{2/}	4.20	5.08	4.65	5.27	5.21	6.96
Yield (bushels per planted acre)	28.30	25.20	30.20	29.20	31.90	25.86
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	179.48	160.64	204.46	166.72	165.96	150.64
Variable cash expenses	62.52	61.38	59.61	61.05	56.68	49.08
Interest paid	26.41	27.15	32.57	33.82	20.32	18.16
Other fixed cash expenses	20.01	19.36	21.61	22.75	19.70	21.33
Total cash expenses	108.94	107.89	113.79	117.62	96.70	88.57
Gross value of production less cash expenses	70.54	52.75	90.67	49.10	69.26	62.07
Capital replacement	20.59	23.16	24.50	24.17	29.60	31.48
Operating capital	3.87	2.88	2.21	2.54	1.72	1.08
Other nonland capital	3.70	3.70	3.50	4.32	4.99	5.07
Land	56.86	52.54	63.46	52.71	48.16	43.63
Unpaid labor	11.24	9.01	8.92	8.94	9.22	9.53
Total economic (full-ownership) costs ^{2/}	178.79	172.02	183.81	176.48	170.07	161.20
Residual returns to management and risk ^{3/}	.69	-11.38	20.65	-9.76	-4.11	-10.56
Costs per bushel:						
Variable cash expenses	2.11	1.96	2.32	2.22	1.66	1.49
Fixed cash expenses	1.56	1.48	2.11	2.05	1.17	1.20
Total cash expenses	3.67	3.44	4.42	4.27	2.83	2.69
Total economic (full-ownership) costs ^{2/}	6.02	5.49	7.15	6.41	4.98	4.89
Yield (bushels per planted acre)	29.68	31.32	25.72	27.54	34.17	32.94

See footnotes at end of Table 79.

Table 76--U.S. peanut production costs and returns and costs per pound, 1975-86 ^{1/}

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	509.28	503.01	523.33	561.46	550.47	376.45
Variable cash expenses	203.11	199.33	230.51	246.82	270.03	287.27
Interest paid	37.06	35.78	35.06	36.86	40.53	44.74
Other fixed cash expenses	24.82	25.82	29.42	31.17	34.77	28.98
Total cash expenses	264.99	260.94	295.00	314.85	345.34	360.99
Gross value of production less cash expenses	244.30	242.07	228.33	246.61	205.13	15.46
Capital replacement	18.85	21.70	33.74	34.72	36.08	39.02
Operating capital	3.49	2.87	4.71	6.58	9.18	12.14
Other nonland capital	5.50	5.93	8.23	7.92	8.08	7.72
Land	92.16	91.89	118.81	124.33	135.02	123.68
Peanut quota	N/A	N/A	N/A	N/A	N/A	N/A
Unpaid labor	9.65	10.44	16.11	16.96	18.63	19.15
Total economic (full-ownership) costs ^{2/}	357.59	357.98	441.54	468.49	511.79	517.96
Residual returns to management and risk ^{3/}	151.70	145.03	81.79	92.97	38.68	-141.51
Costs per pound:						
Variable cash expenses	.080	.082	.095	.095	.104	.188
Fixed cash expenses	.024	.025	.027	.026	.029	.048
Total cash expenses	.105	.107	.121	.121	.133	.236
Total economic (full-ownership) costs ^{2/}	.141	.146	.182	.180	.198	.339
Yield (pounds per planted acre)	2,533.00	2,445.00	2,431.00	2,602.00	2,587.00	1,526.43

	1981	1982	1983	1984	1985	1986
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	721.19	667.41	580.01	726.46	638.00	689.78
Variable cash expenses	306.19	292.32	291.71	310.65	295.10	274.11
Interest paid	107.42	96.86	97.80	73.91	65.99	67.57
Other fixed cash expenses	40.19	37.07	38.46	39.56	34.64	45.40
Total cash expenses	453.80	426.25	427.96	424.12	395.73	387.08
Gross value of production less cash expenses	267.39	241.16	152.05	302.34	242.27	302.70
Capital replacement	43.63	46.88	49.85	49.52	43.05	48.42
Operating capital	14.81	11.66	9.56	11.37	8.37	5.95
Other nonland capital	8.16	8.36	8.02	9.62	8.06	9.78
Land	105.26	92.90	84.63	91.78	84.07	65.07
Peanut quota	N/A	N/A	N/A	N/A	N/A	112.96
Unpaid labor	15.79	16.01	16.10	15.87	17.05	35.96
Total economic (full-ownership) costs ^{2/}	534.03	505.20	498.33	528.37	490.33	597.65
Residual returns to management and risk ^{3/}	187.16	162.21	81.68	198.09	147.67	92.13
Costs per bushel:						
Variable cash expenses	.116	.111	.124	.110	.106	.116
Fixed cash expenses	.056	.051	.058	.040	.036	.048
Total cash expenses	.171	.161	.182	.150	.143	.164
Total economic (full-ownership) costs ^{2/}	.202	.191	.212	.187	.177	.254
Yield (bushels per planted acre)	2,647.61	2,642.50	2,350.15	2,827.78	2,771.74	2,354.78

N/A = Not available.

See footnotes at end of Table 79.

Table 77--U.S. cotton production costs and returns per planted acre and costs per pound, 1975-86 ^{1/}

Item	1975	1976	1977	1978	1979	1980
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	252.40	325.79	314.09	262.33	366.02	313.78
Variable cash expenses	141.08	143.71	160.73	159.90	189.24	200.34
Interest paid	16.85	16.36	16.08	16.78	18.21	19.86
Other fixed cash expenses	20.37	21.90	24.01	20.80	22.56	21.11
Total cash expenses	178.31	181.97	200.82	197.48	230.01	241.31
Gross value of production less cash expenses	74.09	143.82	113.27	64.86	136.01	72.47
Capital replacement	31.25	39.59	41.10	34.98	42.74	46.23
Operating capital	2.63	2.25	2.82	3.70	5.29	6.80
Other nonland capital	8.23	9.76	9.04	7.19	8.63	9.13
Land	25.86	33.42	32.10	40.77	49.31	43.24
Unpaid labor	5.11	6.01	6.97	9.48	10.77	11.33
Total economic (full-ownership) costs ^{2/}	234.53	256.64	276.78	276.83	328.54	338.18
Residual returns to management and risk ^{3/}	17.87	69.15	37.31	-14.49	37.47	-24.40
Costs per pound:						
Variable cash expenses	.339	.330	.318	.410	.377	.546
Fixed cash expenses	.089	.088	.079	.096	.081	.112
Total cash expenses	.429	.418	.398	.506	.458	.657
Total economic (full-ownership) costs ^{2/}	.564	.590	.548	.710	.654	.921
Yield (pounds per planted acre)	416.00	435.00	505.00	390.00	502.40	367.19
<u>Dollars</u>						
	1981	1982	1983	1984	1985	1986
Costs and returns per planted acre:						
Gross value of production	325.55	354.38	377.05	365.25	363.86	255.68
Variable cash expenses	216.25	235.80	224.92	237.27	245.50	217.84
Interest paid	52.91	54.88	54.76	55.27	45.88	44.01
Other fixed cash expenses	30.84	33.21	32.53	34.34	31.71	33.95
Total cash expenses	300.00	323.89	312.21	326.88	323.09	295.80
Gross value of production less cash expenses	25.55	30.49	64.84	38.37	40.77	-40.12
Capital replacement	38.21	42.58	44.88	44.06	45.57	50.35
Operating capital	8.83	7.76	5.80	6.67	5.38	5.09
Other nonland capital	6.23	6.65	6.36	7.88	7.66	8.76
Land	50.55	58.00	62.84	60.50	58.63	51.44
Unpaid labor	8.82	9.53	9.51	9.46	10.05	20.65
Total economic (full-ownership) costs ^{2/}	359.73	393.52	386.84	400.18	404.50	388.08
Residual returns to management and risk ^{3/}	-34.18	-39.14	-9.79	-34.93	-40.64	-132.40
Costs per pound:						
Variable cash expenses	.413	.428	.478	.428	.410	.471
Fixed cash expenses	.160	.160	.186	.162	.130	.168
Total cash expenses	.573	.588	.664	.589	.540	.639
Total economic (full-ownership) costs ^{2/}	.687	.715	.822	.722	.676	.838
Yield (pounds per planted acre)	523.88	550.73	470.40	554.65	598.35	462.97

See footnotes at end of Table 79.

Table 78--U.S. sugar-beet production costs and returns per planted acre and costs per net ton, 1981-86 ^{1/}

Item	1981	1982	1983	1984	1985	1986
<u>Dollars</u>						
Costs and returns per planted acre:						
Gross value of production	649.30	704.96	721.33	668.02	675.01	731.88
Variable cash expenses	316.44	307.76	313.54	286.28	286.81	274.22
Interest paid	111.10	68.50	57.73	77.85	73.04	72.08
Other fixed cash expenses	60.03	59.60	69.18	58.00	59.28	64.36
Total cash expenses	487.57	435.86	440.45	422.13	419.14	410.66
Gross value of production less cash expenses	161.73	269.10	280.88	245.89	255.87	321.22
Capital replacement	50.91	53.61	56.75	58.19	60.07	59.93
Operating capital	22.39	17.58	13.85	14.85	8.82	5.97
Other nonland capital	21.01	22.46	23.48	12.65	12.21	12.57
Land	74.64	97.63	92.97	100.59	100.91	107.74
Unpaid labor	35.34	34.78	35.62	45.01	46.83	50.06
Total economic (full-ownership) costs ^{2/}	580.76	593.42	605.39	575.57	574.93	574.85
Residual returns to management and risk ^{3/}	68.54	111.54	115.94	92.45	100.08	157.03
Costs per net ton:						
Variable cash expenses	14.39	15.52	16.15	14.55	14.41	13.45
Fixed cash expenses	7.78	6.46	6.54	6.90	6.65	6.69
Total cash expenses	22.17	21.98	22.69	21.45	21.05	20.14
Total economic (full-ownership) costs ^{2/}	26.41	29.93	31.19	29.25	28.88	28.19
Yield (net tons per planted acre)	21.99	19.83	19.41	19.68	19.91	20.39

N/A = Not available.

See footnotes at end of Table 79.

Table 79--U.S. sugarcane production costs and returns per harvested acre and costs per net ton, 1981-86 ^{1/}

Item	1981	1982	1983	1984	1985	1986
<u>Dollars</u>						
Costs and returns per harvested acre:						
Gross value of production	922.68	1061.43	1050.20	1058.82	998.68	828.12
Variable cash expenses	684.87	737.08	725.97	712.43	672.63	476.78
Interest paid	N/A	N/A	N/A	N/A	N/A	N/A
Other fixed cash expenses	100.56	103.76	105.23	107.30	103.31	86.42
Total cash expenses	785.43	840.84	831.20	819.73	775.94	563.20
Gross value of production less cash expenses	137.25	220.59	219.00	239.09	222.74	264.92
Capital replacement	61.25	65.79	68.31	77.81	76.59	62.95
Operating capital	61.81	52.65	40.83	36.52	25.14	13.92
Other nonland capital	46.91	47.78	42.67	46.75	38.67	18.55
Land	155.07	153.77	149.01	146.91	158.25	154.98
Unpaid labor	20.68	22.70	22.85	21.55	20.50	24.50
Total economic (full-ownership) costs ^{2/}	1,131.15	1,183.53	1,154.87	1,149.27	1,095.09	838.10
Residual returns to management and risk ^{3/}	-208.47	-122.10	-104.67	-90.45	-96.41	-9.98
Costs per net ton:						
Variable cash expenses	18.71	18.61	19.46	19.10	18.13	15.43
Fixed cash expenses	2.75	2.62	2.82	2.88	2.78	2.80
Total cash expenses	21.46	21.23	22.28	21.98	20.91	18.23
Total economic (full-ownership) costs ^{2/}	30.91	29.89	30.96	30.81	29.52	27.12
Yield (net tons per harvested acre)	36.60	39.60	37.30	37.30	37.10	30.90

N/A = Not available.

^{1/} Includes both operator and landlord costs and returns. Excludes direct Government payments and costs of program participation. Survey base changed in 1986 for all crops except oats, rice, sugar beets and sugarcane. ^{2/} Economic costs are cash expenses less interest paid plus capital replacement and allocated returns to operating capital, nonland capital, land, and unpaid labor. ^{3/} Gross value of production less total economic (full-ownership) costs.

Appendix table 1--Indexes of prices paid by farmers, 1979-89

Index	1979	1980	1981	1982	1983	1984
<u>1977 = 100</u>						
Prices paid by farmers for commodities and services, interest, taxes, and wage rates	123	138	150	159	161	164
Production items	125	138	148	153	152	155
Feed	110	123	134	122	134	135
Feeder livestock	185	177	164	164	160	154
Seed	110	118	138	141	141	151
Fertilizer	108	134	144	144	137	143
Agricultural chemicals	96	102	111	119	125	128
Fuels and energy	137	188	213	210	202	201
Farm and motor supplies	115	134	147	152	152	147
Autos and trucks	117	123	143	159	170	182
Tractors and self-propelled machinery	122	136	152	165	174	181
Other machinery	119	132	146	160	171	180
Building and fencing	118	128	134	135	138	138
Farm services and cash rent	117	144	157	169	145	152
Interest	143	174	211	242	250	248
Taxes	107	115	123	124	129	133
Wage rates	117	127	138	144	148	151
Production items, interest, taxes, and wage rates	125	139	151	158	159	161
<u>Percent</u>						
Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and wage rates	107	97	92	84	84	87
<u>1977 = 100</u>						
Prices paid by farmers for commodities and services, interest, taxes, and wage rates	162	159	162	169	177	
Production items	151	144	147	157	165	
Feed	116	108	103	128	136	
Feeder livestock	154	153	179	192	194	
Seed	153	148	148	150	165	
Fertilizer	135	124	118	130	137	
Agricultural chemicals	128	127	124	126	132	
Fuels and energy	201	162	161	166	181	
Farm and motor supplies	146	144	145	148	155	
Autos and trucks	193	198	208	215	223	
Tractors and self-propelled machinery	178	174	174	181	193	
Other machinery	183	182	185	197	208	
Building and fencing	136	136	137	138	141	
Farm services and cash rent	150	145	147	148	158	
Interest	228	211	190	186	177	
Taxes	136	138	144	148	152	
Wage rates	154	159	166	171	185	
Production items, interest, taxes, and wage rates	156	150	151	160	167	
<u>Percent</u>						
Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and wage rates	79	77	78	82	84	

Source: Agricultural Prices, 1989 Annual Summary.

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